VOLUME XXXIX
NUMBER FIVE

THE NATIONAL GEOGRAPHIC MAGAZINE

MAY, 1921

CONTENTS

SPECIAL MAP SUPPLEMENT
THE NEW ASIA
(Size, 28 x 36 inches)

Western Siberia and the Altai Mountains
With Some Speculations on the Future of Siberia
39 Illustrations — VISCOUNT JAMES BRYCE

The Mongols, People of the Wilderness
59 Illustrations — ADAM WARWICK

The New Map of Asia
17 Illustrations

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

$4.00 A YEAR
50c. THE COPY

XUM

NATIONAL GEOGRAPHIC SOCIETY

GEOGRAPHIC ADMINISTRATION BUILDINGS
SIXTEENTH AND M STREETS NORTHWEST, WASHINGTON, D. C.

GILBERT GROSVENOR, President
HENRY WHITE, Vice-President
JOHN JOY EDSON, Treasurer
O. P. AUSTIN, Secretary
BOYD TAYLOR, Assistant Treasurer
GEORGE W. HUTCHISON, Associate Secretary
FREDERICK V. COVILLE, Chairman Committee on Research
EDWIN P. GROSVENOR, General Counsel

EXECUTIVE STAFF OF THE NATIONAL GEOGRAPHIC MAGAZINE

GILBERT GROSVENOR, EDITOR

JOHN OLIVER LA GORCE, Associate Editor

WILLIAM J. SHOWALTER
Assistant Editor

RALPH A. GRAVES
Assistant Editor

FRANKLIN L. FISHER
Chief of Illustrations Division

J. R. HILDEBRAND, Chief of School Service

BOARD OF TRUSTEES

CHARLES J. BELL
President American Security and Trust Company

JOHN JOY EDSON
Chairman of the Board, Washington Loan & Trust Company

DAVID FAIRCHILD
In Charge of Agricultural Explorations, U. S. Department of Agriculture

C. HART MERRIAM
Member National Academy of Sciences

O. P. AUSTIN
Statistician

GEORGE R. PUTNAM
Commissioner U. S. Bureau of Lighthouses

GEORGE SHIRAS, 3D
Formerly Member U. S. Congress, Faunal Naturalist, and Wild-game Photographer

GRANT SQUIRES
Military Intelligence Division, General Staff, New York

WILLIAM HOWARD TAFT
Ex-President of the United States

FRANKLIN K. LANE
Formerly Secretary of Interior

C. M. CHESTER
Rear Admiral U. S. Navy, Formerly Supt. U. S. Naval Observatory

FREDERICK V. COVILLE
Botanist, U. S. Department of Agriculture

RUDOLPH KAUFFMANN
Managing Editor The Evening Star

T. L. MACDONALD
M. D., F. A. C. S.

S. N. D. NORTH
Formerly Director U. S. Bureau of Census

JOHN OLIVER LA GORCE
Associate Editor National Geographic Magazine

ALEXANDER GRAHAM BELL
Inventor of the telephone

J. HOWARD GORE
Prof. Emeritus Mathematics, The George Washington University

A. W. GREELY
Arctic Explorer, Major General U. S. Army

GILBERT GROSVENOR
Editor of National Geographic Magazine

GEORGE OTIS SMITH
Director of U. S. Geological Survey

O. H. TITTMANN
Formerly Superintendent of U. S. Coast and Geodetic Survey

HENRY WHITE
Member American Peace Commission, and Recently U. S. Ambassador to France, Italy, etc.

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

TO CARRY out the purpose for which it was founded thirty-three years ago, the National Geographic Society publishes this Magazine. All receipts from the publication are invested in the Magazine itself or expended directly to promote geographic knowledge and the study of geography. Articles or photographs from members of the Society, or other friends, are desired. For material that the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage, and be addressed: Editor, National Geographic Magazine, 16th and M Streets, Washington, D. C.

Important contributions to geographic science are constantly being made through expeditions financed by funds set aside from the Society's income. For example, immediately after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. So important was the completion of this work considered that four expeditions have followed and the extraordinary scientific data resultant given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures, evidently formed by nature as a huge safety-valve for erupting Katmai. By proclamation of the President of the United States, this area has been created a National Monument. The Society organized and supported a large party, which made a three-year study of Alaskan glacial fields, the most remarkable in existence. At an expense of over $50,000 it has sent a notable series of expeditions into Peru to investigate the traces of the Inca race. The discoveries of these expeditions form a large share of the world's knowledge of a civilization which was waning when Pizarro first set foot in Peru. Trained geologists were sent to Mt. Pelee, La Soufriere, and Messina following the eruptions and earthquakes. The Society also had the honor of subscribing a substantial sum to the historic expedition of Admiral Peary, who discovered the North Pole April 6, 1909. Not long ago the Society granted $20,000 to the Federal Government when the congressional appropriation for the purchase was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people and incorporated into a National Park.

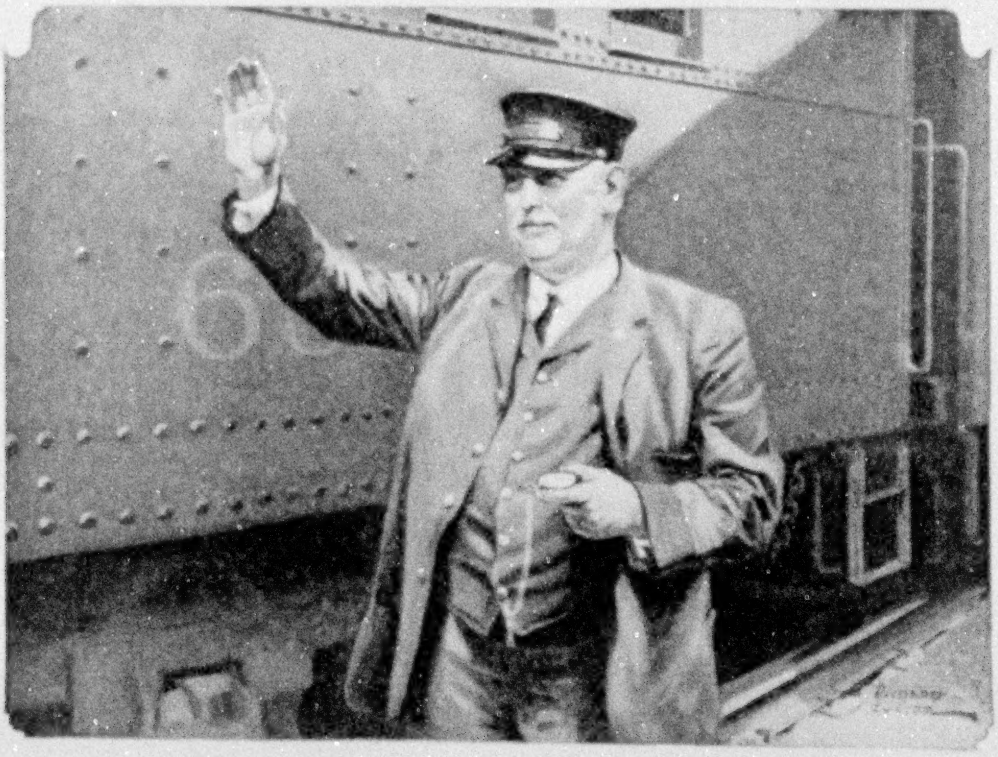
Copyright, 1921, by National Geographic Society, Washington, D. C. All rights reserved.

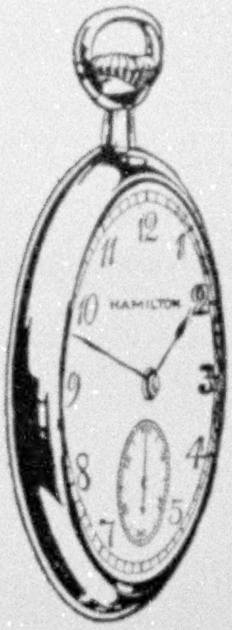
Entered at the Post-Office at Washington, D. C., as Second-Class Mail Matter.

Acceptance for mailing at special rate of postage provided for in Sec. 1103, Act of October 3, 1917, authorized July 1, 1918.

Hamilton Watch

"The Watch of Railroad Accuracy"





When You Are Late You Pay the Penalty

When you miss a train or an important appointment, you know how your schedule for one whole day simply goes all to smash.

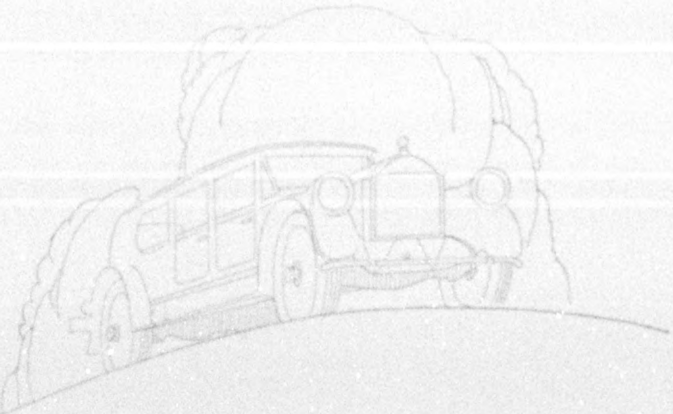
Keep to your schedules by a watch whose accuracy is proved by the thousands of railroad men who prefer it. Hamilton Watches are the timekeepers most popular with American railroad men. For example:

Conductor Dan Mandaville, shown above, has been in Erie service 45 years. His run is between Jersey City and Binghamton—out on No. 5, back on No. 6. He has been carrying for 14 years that Hamilton he holds in his hand.

A Hamilton used as a gift, prize, or reward is received with greater delight because of its high reputation.

There's every desirable kind. Prices range from $40 to $200. Movements alone, $22 (in Canada $25) and up. Send for "The Timekeeper"—an interesting booklet about the manufacture and care of fine watches. The different Hamiltons are illustrated, and prices given.

HAMILTON WATCH COMPANY, *Lancaster, Pennsylvania*



Endurance

resisting the ravages of
toil and time beyond its
1½ years written guarantee

There's a fully equipped Eveready Service Station in your locality

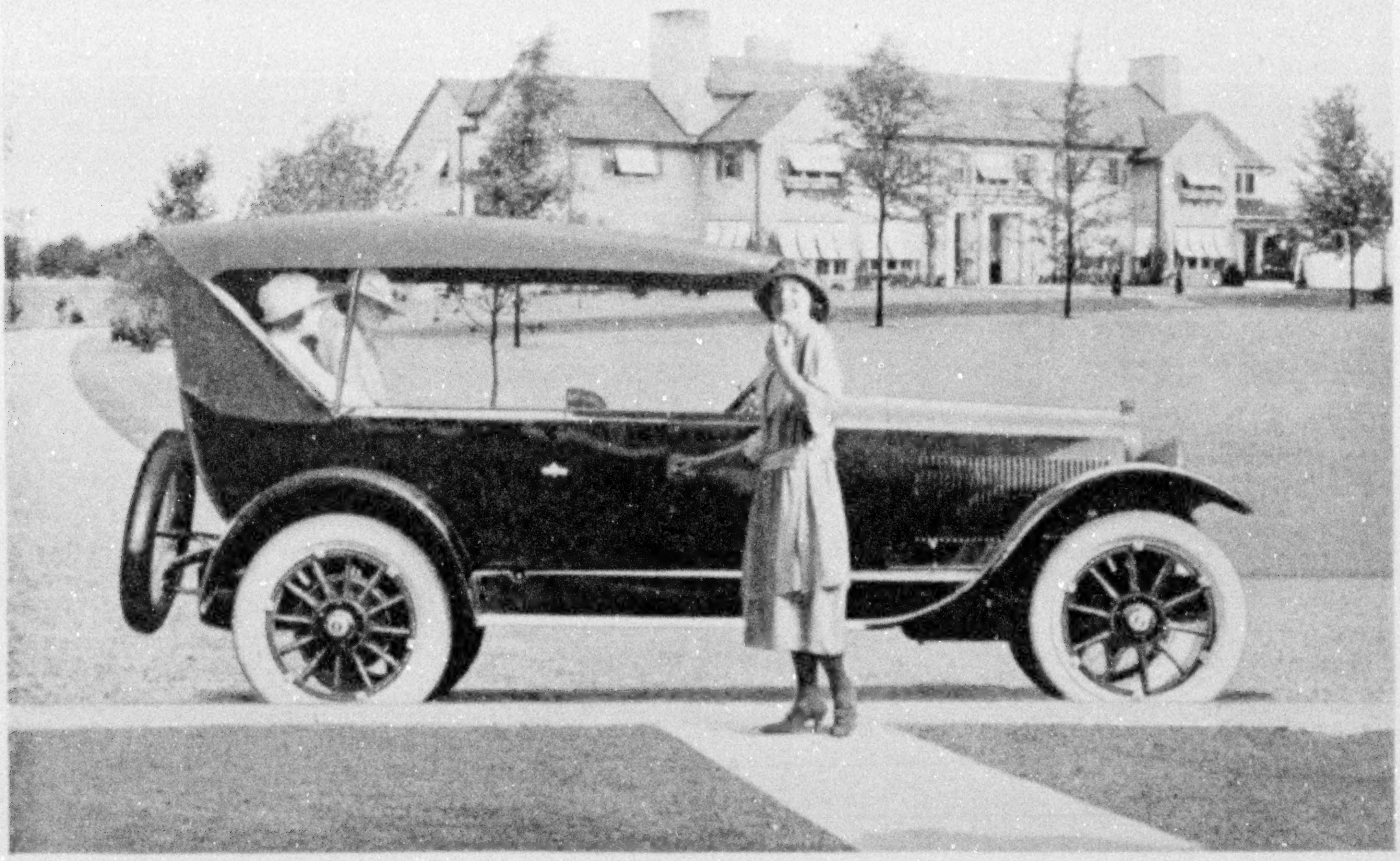
EVEREADY
STORAGE
BATTERY

EVEREADY
STORAGE BATTERY
Member of a Famous Family
Eveready Flashlights, Dry Batteries, Meters, Miniature Mazda Lamps

AMERICAN EVER READY WORKS OF NATIONAL CARBON CO., INC.
Atlanta *Chicago* LONG ISLAND CITY, N.Y. *San Francisco*
S62114E

CHANDLER SIX

Famous For Its Marvelous Motor



Choose Your Car Carefully
And It Will Be a Chandler

YOU are invited to find out to your own satisfaction just what a car the Chandler is. If you will take a real ride in the Chandler you will appreciate its superior qualities. And if you will talk with two or three Chandler owners you will learn a great deal about its dependability and its economy.

The Most Fairly Priced Fine Car

The Chandler leads distinctly in the field of light weight seven-passenger sixes. Eight years of progress and refinement are built into this car. Standing back of it, producing and vouching for it, is one of the most stable companies in the automobile industry

You Will Be Delighted With It

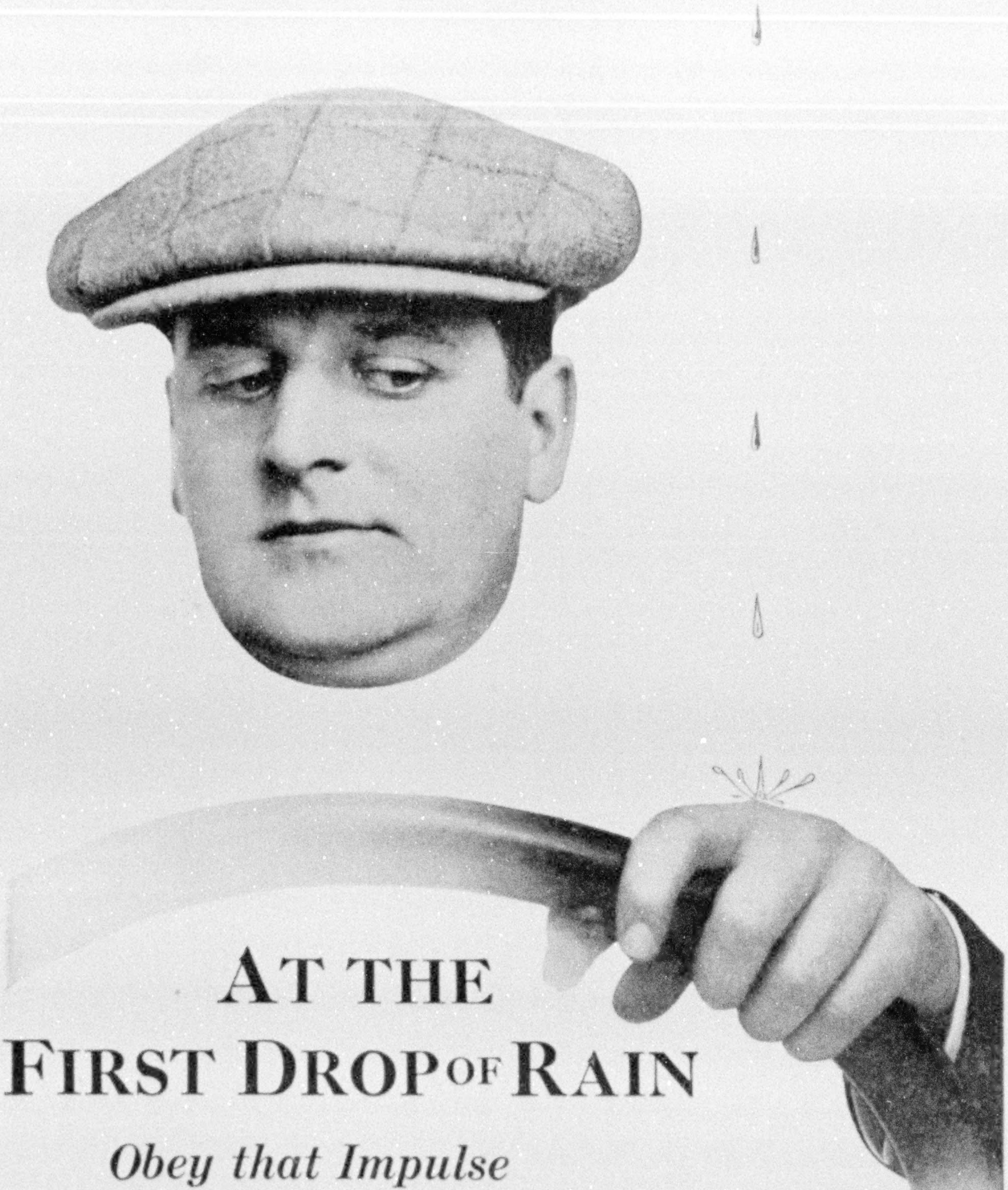
You may choose your Chandler from among seven handsome styles of body, all appealing in the attractiveness of their design, lustrously finished and upholstered in material of the finest quality.

Cord Tires Standard Equipment

Seven-Passenger Touring Car, $1930 *Four-Passenger Dispatch Car, $2010*
Four-Passenger Roadster, $1930 *Two-Passenger Roadster, $1930*
Seven-Passenger Sedan, $3030 *Four-Passenger Coupe, $2930* *Limousine, $3530*
(All prices f. o. b. Cleveland, Ohio)

We shall be pleased to mail you complete catalogue

THE CHANDLER MOTOR CAR COMPANY, CLEVELAND, OHIO
Export Department: 1819 Broadway, New York Cable Address: "CHANMOTOR"



AT THE FIRST DROP OF RAIN

Obey that Impulse

Put on Your

WEED TIRE CHAINS

THE ONLY DEPENDABLE SAFEGUARD AGAINST SKIDDING

NAME "WEED" ON EVERY HOOK

AMERICAN CHAIN CO., INC., BRIDGEPORT, CONN.
Largest Chain Manufacturers in the World
In Canada—Dominion Chain Co., Limited, Niagara Falls, Ontario

General Sales Office:
Grand Central Terminal
New York City

District Sales Offices:

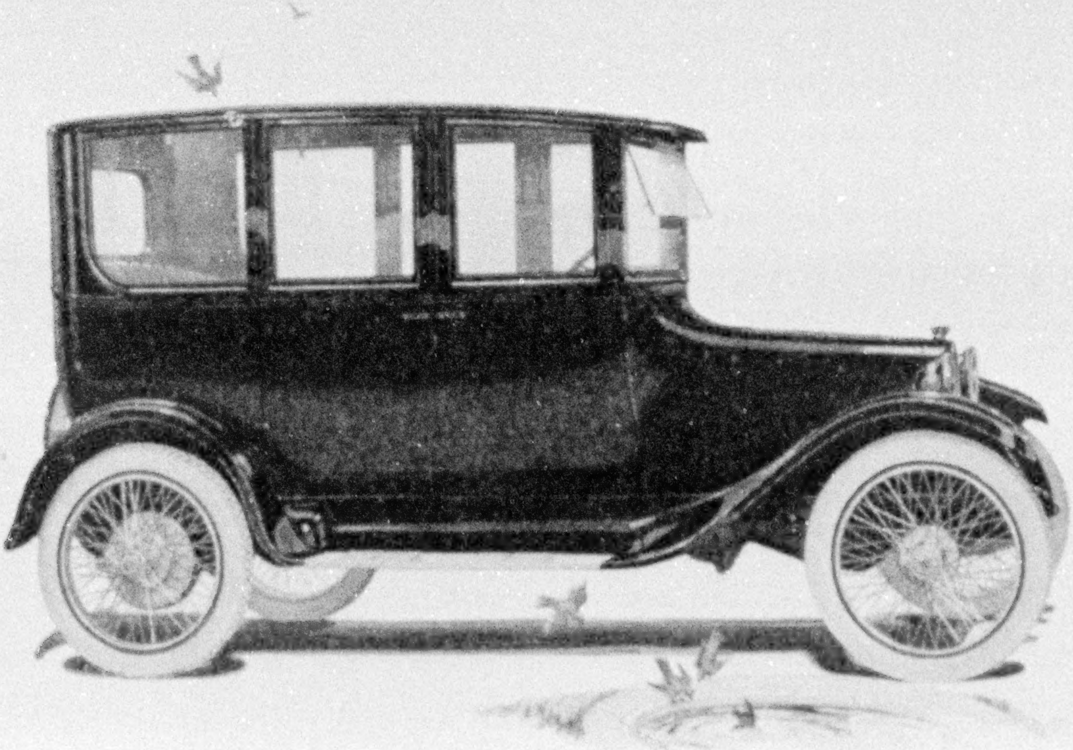
Boston	Pittsburgh
Chicago	Portland, Ore.
Philadelphia	San Francisco

DODGE BROTHERS
4 DOOR SEDAN

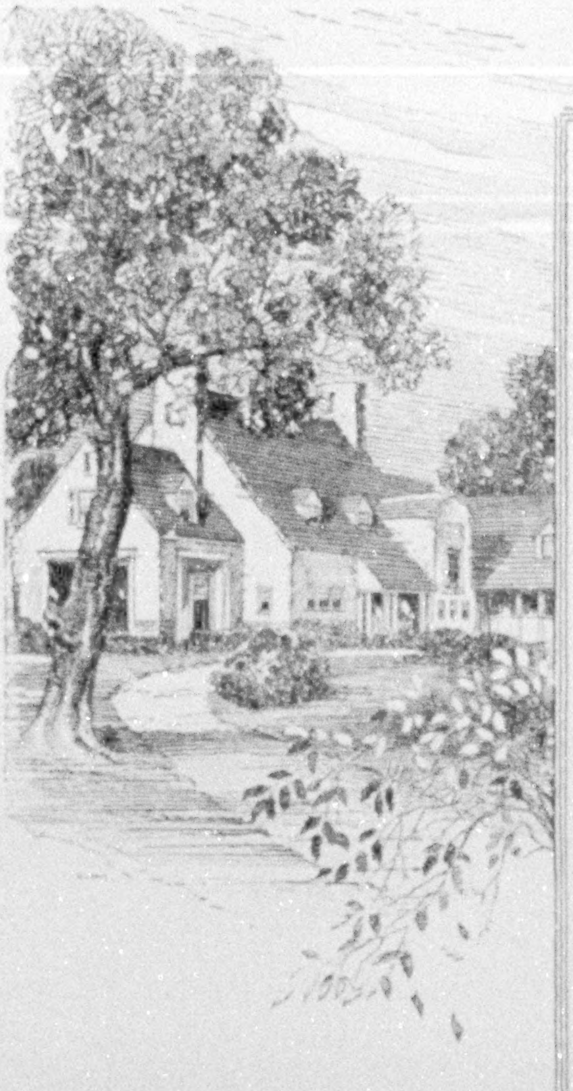
A car which thoroughly deserves its very remarkable popularity. Eminently practical in all kinds of weather. Finished and fitted in excellent good taste

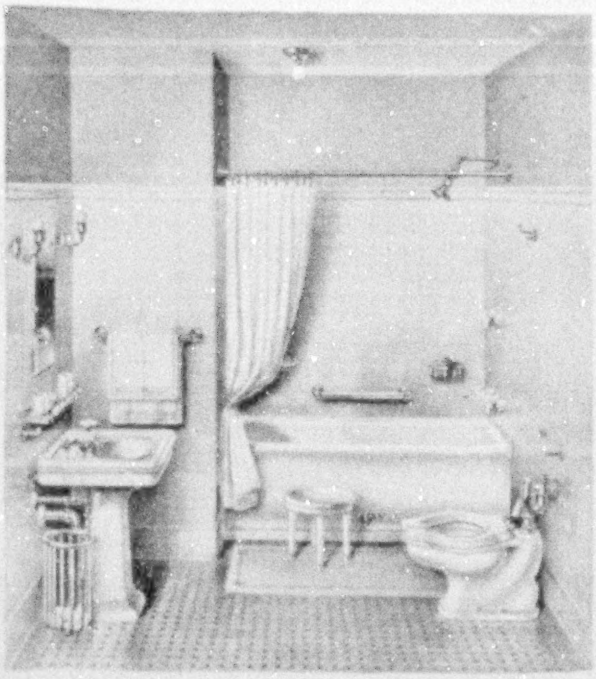
The gasoline consumption is unusually low
The tire mileage is unusually high

DODGE BROTHERS, DETROIT



XUM





Pride of Possession

Crane products add to the comfort, efficiency and sightliness of any home and notably increase the owner's pride of possession.

The outward beauty and convenience of Crane fixtures are reflections of the inner stamina, the high grade materials and workmanship, which feature all of the concealed piping and incidental fittings as well as the visible equipment.

We would be pleased to have you visit our nearest branch with your architect where complete selections can be made.

We are manufacturers of about 20,000 articles, including valves, pipe fittings and steam specialties, made of brass, iron, ferrosteel, cast steel and forged steel, in all sizes, for all pressures and all purposes and are distributors of pipe, heating and plumbing materials.

Crane radiator valves and kindred fittings are specifically adapted to all types of heating systems.

BOSTON
SPRINGFIELD
BRIDGEPORT
HARTFORD
ROCHESTER
NEW YORK
HARLEM
BROOKLYN
ALBANY
PHILADELPHIA
READING
NEWARK
CAMDEN
BALTIMORE
WASHINGTON

SYRACUSE
BUFFALO
SAVANNAH
ATLANTA
KNOXVILLE
BIRMINGHAM
MEMPHIS
LITTLE ROCK
MUSKOGEE
TULSA
OKLAHOMA CITY
WICHITA
ST. LOUIS
KANSAS CITY
TERRE HAUTE

THERE IS A NEARBY CRANE BRANCH TO GIVE YOU CRANE SERVICE

CRANE CO.

836 S. MICHIGAN AVE. CHICAGO

VALVES-PIPE FITTINGS-SANITARY FIXTURES

CRANE EXHIBIT ROOMS

23 W 44TH ST. AND 22 W. 45TH ST.
NEW YORK CITY

1105-1107 BOARD WALK
ATLANTIC CITY

To which the Public is cordially invited

Works: CHICAGO; BRIDGEPORT; BIRMINGHAM

CINCINNATI
INDIANAPOLIS
DETROIT
CHICAGO
ROCKFORD
OSHKOSH
GRAND RAPIDS
DAVENPORT
DES MOINES
OMAHA
SIOUX CITY
ST. PAUL
MINNEAPOLIS
WINONA
DULUTH

FARGO
WATERTOWN
ABERDEEN
GREAT FALLS
BILLINGS
SPOKANE
SEATTLE
TACOMA
PORTLAND
POCATELLO
SALT LAKE CITY
OGDEN
SACRAMENTO
OAKLAND
SAN FRANCISCO

LOS ANGELES

CRANE EXPORT CORPORATION,
19-25 WEST 44TH ST., NEW YORK
301 BRANNAN ST., SAN FRANCISCO, CAL.
36 AVE. DE L'OPÉRA, PARIS, FRANCE

CRANE LIMITED } MONTREAL (HEAD OFFICE AND WORKS); TORONTO, VANCOUVER, WINNIPEG,
SYDNEY, N. S. W., QUEBEC, HALIFAX, OTTAWA, REGINA, CALGARY

CRANE-BENNETT LTD.
45-51 LEMAN ST., LONDON, ENGLAND

The Sky-Blue Passport

With only the sky as the limit of its *visé* field

MONEY IS THE GREATEST of all passports.

THE AMERICAN TRAVELER is known by the color of his money. If it is sky-blue and bears the name of the American Express Company across its face he is recognized instantly as one who knows how to travel; and he is treated accordingly.

THOUSANDS OF AMERICANS traveling in distant lands have been amazed at the seeming *magic* of the sky-blue

American Express Travelers Cheques

—Worthless Pieces of Paper until counter-signed by the owner—and then commanding instant recognition, and immediate acceptance.

BUT THERE IS NO *MAGIC* about these simple sky-blue slips. For 30 years they have meant the reputation and the service, as well as the *money*, of the American Express Company—with its many offices and thousands of correspondents in the great seaports and inland cities of the world.

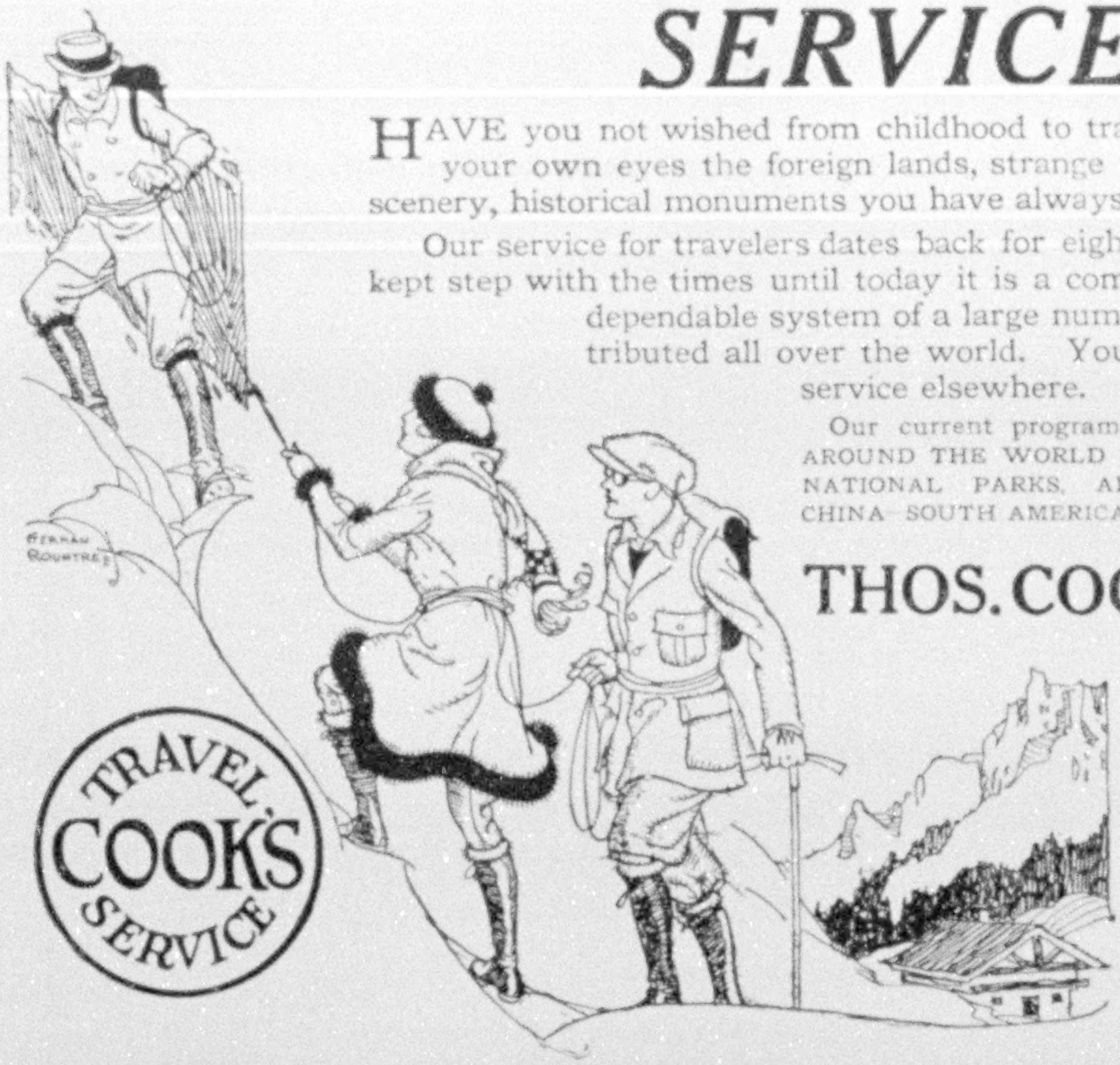
IN ENGLAND AND FRANCE carry English 5 or 10 £ Sterling, and French 200 or 400 Franc Cheques. Dollar cheques for the Orient, North and South America and most other journeys. Buy them at Banks or Express Offices.

FOR ALL JOURNEYS secure your steamship tickets, hotel reservations and itineraries; or plan your cruise or tour through the American Express Travel Department.

American Express Company

65 Broadway, New York City

XUM



SERVICE

HAVE you not wished from childhood to travel and see with your own eyes the foreign lands, strange people, wondrous scenery, historical monuments you have always read about?

Our service for travelers dates back for eighty years. It has kept step with the times until today it is a completely organized dependable system of a large number of offices distributed all over the world. You cannot get such service elsewhere.

Our current programs deal with EUROPE, AROUND THE WORLD TOURS—CALIFORNIA, NATIONAL PARKS, ALASKA—JAPAN and CHINA—SOUTH AMERICA—BERMUDA, etc.

TRAVEL COOK'S SERVICE

THOS. COOK & SON

New York
Chicago
Philadelphia
Boston
San Francisco
Los Angeles
Vancouver, B. C.
Montreal
Toronto

DUES

Annual membership in U. S., $3.50; annual membership abroad, $4.50; Canada, $4.50; life membership, $100. Please make remittances payable to National Geographic Society, and if at a distance remit by New York draft, postal or express order.

RECOMMENDATION FOR MEMBERSHIP

IN THE

NATIONAL GEOGRAPHIC SOCIETY

The Membership Fee Includes Subscription to the National Geographic Magazine

PLEASE DETACH AND FILL IN BLANK BELOW AND SEND TO THE SECRETARY

....192

To the Secretary, National Geographic Society,
Sixteenth and M Streets Northwest, Washington, D. C.:

I nominate ....

Business or Profession ....

Address ....

....

for membership in the Society

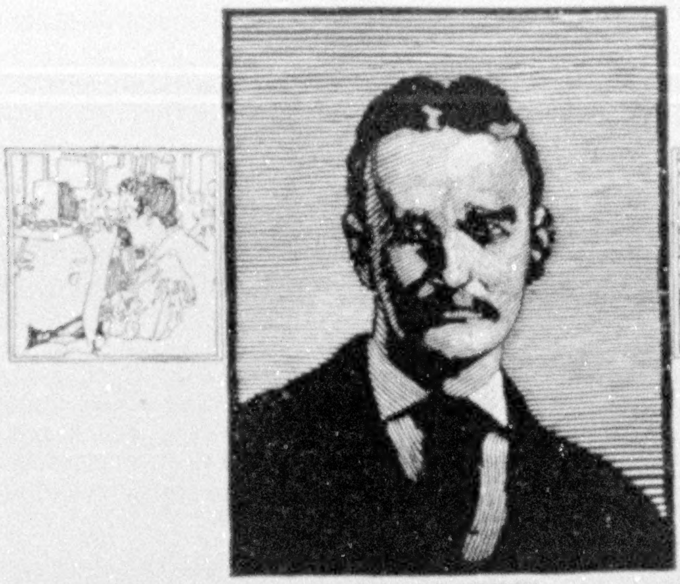
....

....

5-21 *Name and Address of Nominating Member*

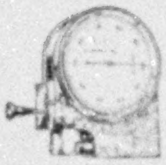
(It is suggested that you inform the Nominee of your recommendation and of the benefits of membership)

THE SCIENTIFICALLY BUILT WATCH



DUANE H. CHURCH
OF WALTHAM
The world's most famous inventor of watch-making machinery

ACCURACY



Jaw Gauge

The Pivot or Shaft

The Bearing of a Shaft that Measures Only Six One-Thousandths of a Centimeter, the Diameter of a Normal Human Hair

A NORMAL human hair measures six one-thousandths of a centimeter. Imagine, then, the pivots or bearings of the Balance Shaft being only the size of a human hair.

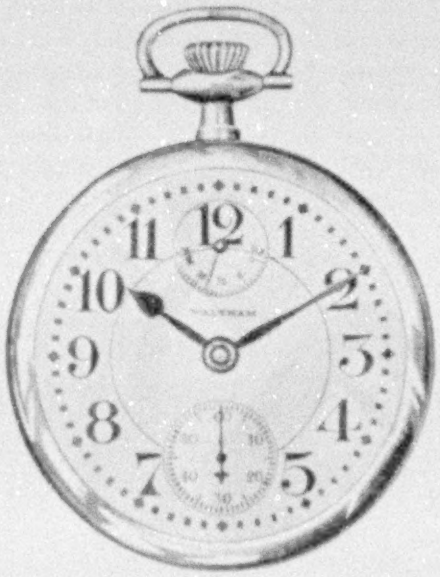
If you should split one of the hairs of your head into six equal parts, each part would measure approximately one-thousandth of a centimeter. Yet, even this minute variation is eliminated by the Waltham standard of measurement.

For instance, here is a Waltham Watch, the works of which are designed to perform on a pivot measurement of six one-thousandths of a centimeter.

But suppose this pivot was enlarged the third part of a human hair, friction would be increased, causing a variation in the time-keeping qualities of the watch.

The Waltham Watch Company has created marvelous gauges that measure even the twelfth part of a human hair to determine these variations and eliminate errors unseen by the human eye in the works of a watch, which mean all the difference to you in dependability and value, giving another of those unanswerable reasons why your watch selection should be a Waltham.

This story is continued in a beautiful booklet in which you will find a liberal watch education. Sent free upon request to the Waltham Watch Company, Waltham, Mass.



WALTHAM VANGUARD

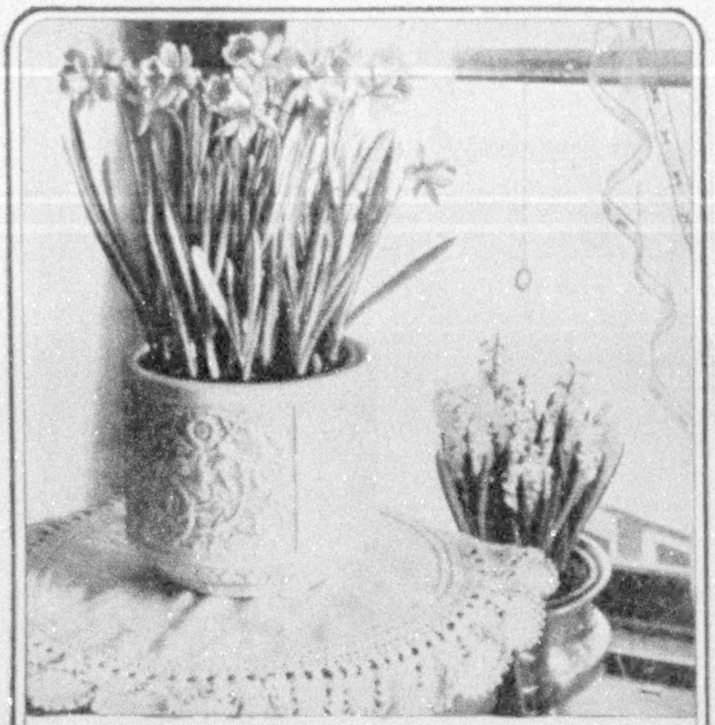
The World's Finest Railroad Watch
23 Jewels $80 and up

Makers of the famous Waltham air friction quality speedometers and automobile time-pieces used on the world's leading cars

WALTHAM

THE WORLD'S WATCH OVER TIME

Where you see this sign they sell Waltham Watches



You Can Grow Flowers In Your House

Write for our free booklet, which gives instructions for growing tulips, hyacinths, narcissi, and other spring flowers in your own house. You can have flowers in your house from Christmas until Easter, if you grow them yourself, at a cost of only a few cents apiece, instead of paying $2 or $3 a dozen, the price in florists' shops last winter. Your own flowers will last many days instead of withering almost as soon as purchased.

Our booklet contains descriptions of almost a thousand of the choicest imported Dutch bulbs, suitable for growing in the house or the garden, and the directions given make failure practically impossible.

We import bulbs to order only and you must **order before July 1.** Our special prices will hold good only until then. By ordering now you save money, assure early delivery in the fall, and get a superior quality of bulbs not usually obtained in this country at any price.

Our orders are selected and packed in Holland and shipped to our customers immediately upon arrival in the best possible condition.

Write for free booklet today to

ELLIOTT NURSERY,
335 Magee Bldg. Pittsburgh, Pa.

ALASKA

ATLIN AND THE YUKON

See this wonderful Northland. The one trip you will never forget and never regret.

You travel in perfect comfort all the way. Best of ocean steamers. Parlor observation cars. Modern river steamers. Excellent hotels and service.

Interesting booklets, maps, and worth-while information on request.

HERMAN WEIG, G. P. A., 119 W. Washington St., CHICAGO
J. L. BURNSIDE, Gen. Agt., 616 Second Av., SEATTLE, WASH.

WHITE PASS AND YUKON ROUTE

Like a Rug of Green Velvet

What is more beautiful than the large well-kept lawn, with sod smoothly rolled and grass carefully cut and trimmed?

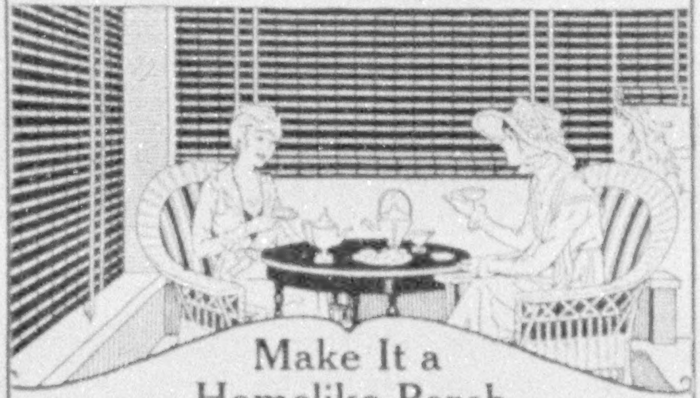
Wherever Ideal Power Lawn Mowers are used it becomes an easy matter to keep large lawns in extremely fine condition. For the Ideal is a *power mower* and *power roller* in one. Large areas of grass are kept mowed and rolled with little effort and at small cost.

With riding trailer the Ideal makes the most practical and economical riding mower possible to procure. Special cutting unit can be furnished for use on putting greens. Write for our large illustrated catalog.

Ideal Power Lawn Mower Co.
R. E. OLDS, Chairman
422 Kalamazoo St., Lansing, Mich.
New York: 270 West Street
Chicago: 533 S. Dearborn Street
Dealers in all principal cities.

AEROLUX

NO-WHIP
VENTILATING
PORCH SHADES



Make It a Homelike Porch

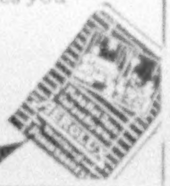
Live outdoors as much as possible during the summer season—amid cozy, homelike surroundings. Make your porch a cool, secluded retreat, where the entire family can lounge, play, or entertain in cool comfort.

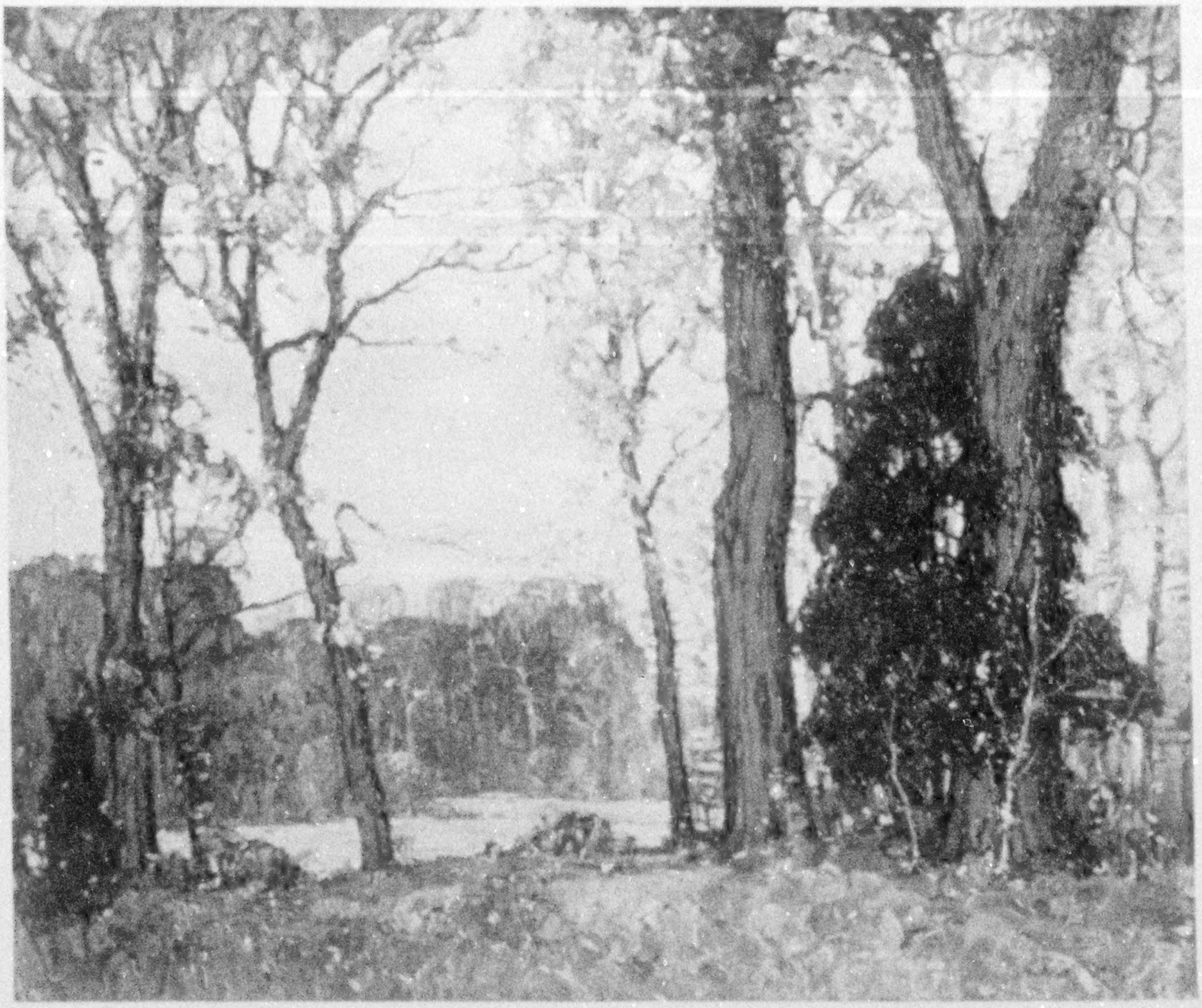
Aerolux Ventilating Porch Shades screen you from the sun's glare and inquisitive eyes. Superior to stuffy awnings. Cannot whip in wind. No other shades like them.

Send for this Free Book showing how others made their porches cool, attractive, homelike—gives you valuable suggestions for beautifying your porch.

More Home to the House

THE AEROSHADE COMPANY
2141 Oakland Avenue
Waukesha, Wis.





Reproduction from a painting in oil of the beautiful estate of Franklin Roosevelt at Hyde Park, New York.

Among prominent persons and places served by Davey Tree Surgeons are:

CHARLES A. OTIS
ARMOUR AND COMPANY
HON. NORMAN H. DAVIS
FELIX M. WARBURG
PENNSYLVANIA STATE CAPITOL
UNIVERSITY OF SOUTH CAROLINA
MRS. ANDREW CARNEGIE
JAMES B. DUKE

JOHN DAVEY
Father of Tree Surgery

HOW many of your fine trees are fighting a losing fight against premature death—unknown to you? Are you certain that the most vigorous *looking* of them is not, even now, on the verge of ruin?

The owner of an estate upon which Davey Tree Surgeons were at work possessed a magnificent oak. Its great top was green and flourishing—the owner thought it perfect. But one day a Davey Tree Surgeon, examining it closely, saw an ant coming out of a tiny hole. A few strokes of the chisel showed serious internal decay. Thorough excavation revealed a cavity of startling size, extending more than twenty-five feet up the trunk!

Take a careful look at your trees. They are the greatest asset of your estate—while they live. Can you see any decayed spots? Are there any splitting crotches? Are any of the tops dying back from hunger or thirst or disease or insect attacks?

Don't "put off" finding out. Trees are *living* things, and undergo a constant battle for life. For your own sake, make sure. A careful examination of your trees will be made by appointment.

In caring for your priceless trees Davey Tree Surgeons place at your command the science, training, and organized efficiency of a generation of conscientious work upon many thousands of America's fine estates. Illustrated booklet sent upon request.

THE DAVEY TREE EXPERT CO., Inc., 1505 Elm Street, Kent, Ohio

Branch offices with telephone connections: New York City, Astor Court Bldg.; Chicago, Westminster Bldg.; Philadelphia, Land Title Bldg.; Boston, 19 Pearl Street, Wakefield; Baltimore, American Bldg.; St. Louis, Central National Bank Bldg. Write nearest office.

Permanent representatives available in districts surrounding Boston, Springfield, Lenox, Newport, Hartford, Stamford, Albany, Poughkeepsie, White Plains, Jamaica, L. I., Montclair, New York, Philadelphia, Harrisburg, Baltimore, Washington, Richmond, Buffalo, Toronto, Pittsburgh, Cleveland, Detroit, Cincinnati, Kansas City, Louisville, Indianapolis, Chicago, Milwaukee, St. Louis. Canadian address, 252 Laugauchitere West, Montreal.

DAVEY TREE SURGEONS

Every real Davey Tree Surgeon is in the employ of The Davey Tree Expert Co., Inc., and the public is cautioned against those falsely representing themselves. An agreement made with the Davey Company and not with an individual is certain evidence of genuineness

XUM

Made in the cup at the table
G. Washington's
PREPARED COFFEE

Each cup made to order—no coffee-pot needed

No trouble No straining No waiting No grounds No boiling No waste

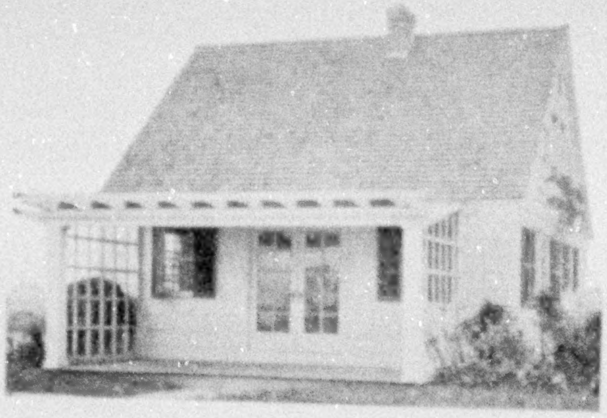
Measure the cost by the cup—not by the size of the can

Ten Cents for special trial size—Recipe Booklet Free

G. WASHINGTON COFFEE REFINING CO., 522 FIFTH AVENUE, NEW YORK CITY

G. Washington's COFFEE

ORIGINATED BY MR. WASHINGTON IN 1909



Country House or Garage

Bossert Houses include all types from the large, all-year-round country house through the less pretentious suburban dwellings and vacation bungalows down to garages.

Each house that is built by us is the best of its type. The workmanship is second to none and the materials used in the construction are the best that money can buy. The Bossert method of construction eliminates all possibility of later disappointment because you know what the house is going to look like before it is built, and our thorough-going methods guarantee perfect fit of all parts.

Fabricated at our plant, Bossert Houses are sent to you ready for immediate erection. Because of this method you are saved money, time, and bother.

Write for our catalogue showing floor plans and illustrations of our many beautiful models.

Catalogue on receipt of 18 cents.

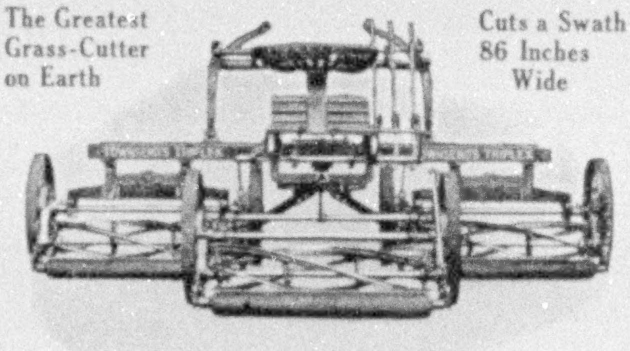
LOUIS BOSSERT & SONS, Inc.

1313 Grand Street Brooklyn, N. Y.

TOWNSEND'S TRIPLEX

The Greatest Grass-Cutter on Earth

Cuts a Swath 86 Inches Wide



Floats Over the Uneven Ground as a Ship Rides the Waves

One mower may be climbing a knoll, the second skimming a level, and the third paring a hollow. Drawn by one horse and operated by one man, the TRIPLEX will mow more lawn in a day than the best motor mower ever made; cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horse-drawn mowers with three horses and three men.

Does not smash the grass to earth and plaster it in the mud in springtime, neither does it crush the life out of the grass between hot rollers and hard, hot ground in summer, as does the motor mower.

The public is warned not to purchase mowers infringing the Townsend Patent, No. 1,209,519, December 19th, 1916.

Write for catalog illustrating all types of Lawn Mowers

S. P. TOWNSEND & CO.

254 Glenwood Avenue Bloomfield, N. J.

"the Midnight Sun"

A Summer Cruise to Iceland, the North Cape and Norway

with visits also to Edinburgh, Amsterdam,
Antwerp and London

Sailing from New York, June 25
Rates $850 and upward

The Ideal Vacation Tour

If you have ever gone cruising to foreign lands you know the delights of informal days at sea and the unflagging interest aroused by visits to strange, new ports. The feeling of being an alien—that sometimes comes to a traveler—is always lacking on a cruise. The ship—"your home"—is waiting in the harbor.

The Raymond-Whitcomb North Cape Cruise will give you the greatest amount of enjoyment and exhilaration.

Write for our North Cape booklet

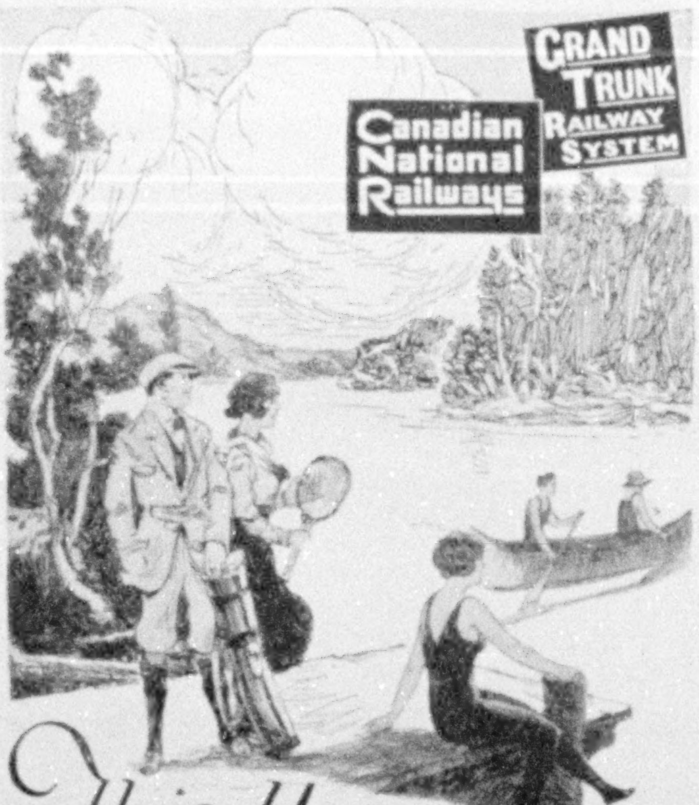
Other Tours

California, The Pacific Northwest, Alaska
Europe, Japan-China, Round the World
Frequent tours at the best seasons
Send for booklet desired

Raymond & Whitcomb Co.

Beacon and Park Streets, Boston
New York—Philadelphia—Chicago—San Francisco—Los Angeles

RAYMOND-WHITCOMB
The Best in Travel **TOURS & CRUISES** The Best in Travel



This Year CANADA Calls You!

Vacation Land of Ideal Summer Climate

Hay fever is unknown in this clear, pine-and-balsam scented air. Unlimited territory to choose from—cloud tipped mountains and rugged foot hills inviting exploration; wide valleys of woods and streams and wild flowers; turquoise lakes with sandy beaches; the restful relaxation of camp life or the luxury of the finest hotels.

In *Canada*, your Ideal Vacation is realized: Algonquin Park—Muskoka Lakes—Great Lakes Cruise—Georgian Bay—Lake of Bays—Kawartha Lakes—Timagami—Nipigon—Quetico—Minaki—Lower St. Lawrence and Maritime Provinces. Fishing, boating, bathing, golf. A summer play-ground in the great out-of-doors.

Jasper Park, Alberta, and Mount Robson Park, British Columbia, embrace the scenic mountain wonders of the Dominion.

For full information write

Canadian National or Grand Trunk Railways

at any of the following addresses—Ask for Booklet C

Boston, 294 Washington St.
Buffalo, 1019 Chamber of Commerce Bldg.
Chicago, 64 West Adams St.
Cincinnati, 406 Traction Bldg.
Detroit, 527 Majestic Bldg.
Kansas City, 710 Railway Exchange Bldg.
Minneapolis, 518 Second Ave. South
New York, 1270 Broadway
Pittsburgh, 505 Park Bldg.
St. Louis, 305 Merchants' Laclede Bldg.
San Francisco, 689 Market St.
Seattle, 902 Second Ave.

Fishing, Hunting, and Camping

Real fishing and hunting in virgin streams and unspoiled big game country in NOVA SCOTIA, NEW BRUNSWICK, QUEBEC, ONTARIO, ALBERTA, and BRITISH COLUMBIA. For full information write G. T. Bell, Passenger Traffic Manager, Grand Trunk Railway System, Montreal, or H. H. Melanson, Passenger Traffic Manager, Canadian National Railways, Toronto.

When You Travel

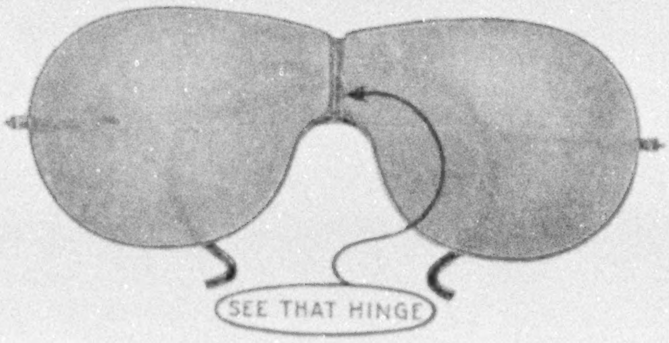
Insure Your Baggage

You insure these same effects when you are at home and they are under your watchful care. Why not when you travel and they are exposed to innumerable hazards beyond your control?

Any agent or broker can get you a North America policy

Box B
Insurance Co. of North America
Philadelphia

The AUTOGLAS

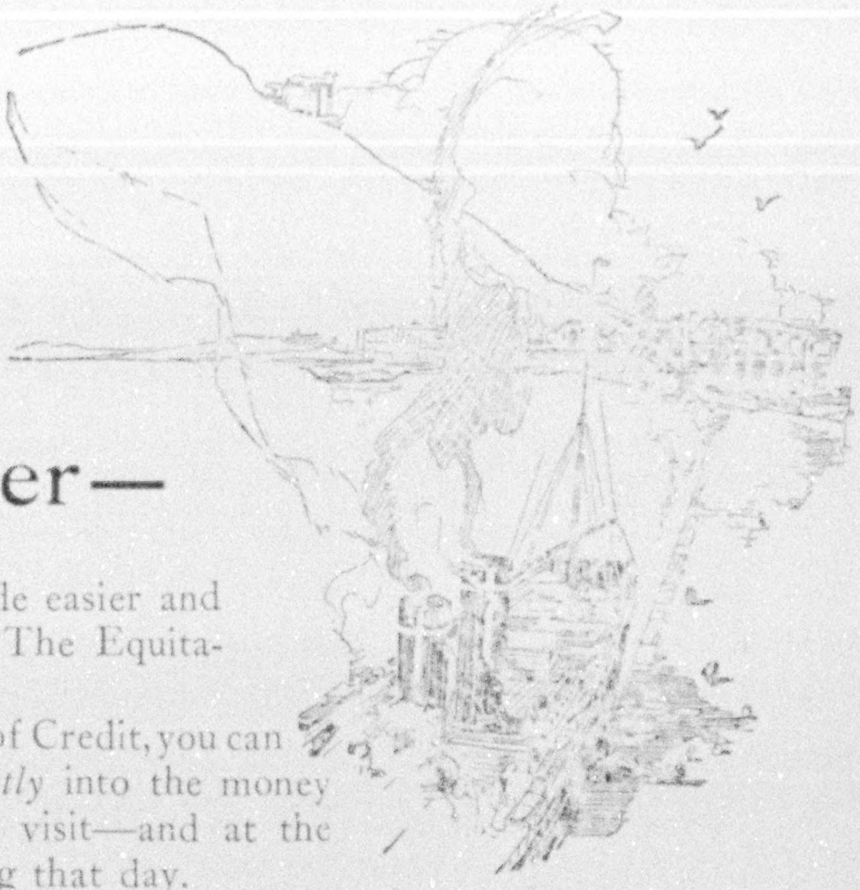


PATENTED MAY 2, 1911

Comfortably protects the eyes of those who take pleasure in outing. Motorists, Golfers, Tourists, Hunters, Trap-shooters, and Fishermen find they prevent the discomforts caused by dust, wind, or flying particles.

For sale by Opticians, Motor Supply and Sporting Goods Establishments. We will gladly furnish the address of your nearest dealer.

F. A. HARDY & COMPANY
Department R
Box 804, Chicago, Ill.



When you go abroad this summer—

YOUR trip will be made easier and pleasanter if you use The Equitable's Travel Service.

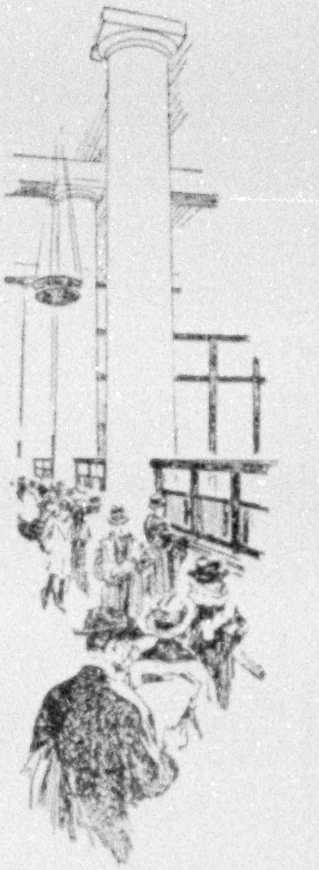
With our Dollar Letter of Credit, you can convert your dollars *directly* into the money of the countries you will visit—and at the rate of exchange prevailing that day.

Our Letter also will be your introduction to the principal banks throughout the world. It will mean more courteous attention, often the use of a specially reserved banking room. For the name and prestige of The Equitable are world-wide and the sun never sets on its correspondents.

Through our Foreign Travel Department, 37 Wall St., New York, we will be glad to help you with your sailing arrangements; and when you reach Paris, the travel expert of our Paris Office, 23 Rue de la Paix, will arrange your itinerary, make hotel, train and boat reservations, and help you in many other ways.

You can get our Dollar Letter of Credit from us directly or through your local bank.

Send today for a copy of our "Traveler's Primer."

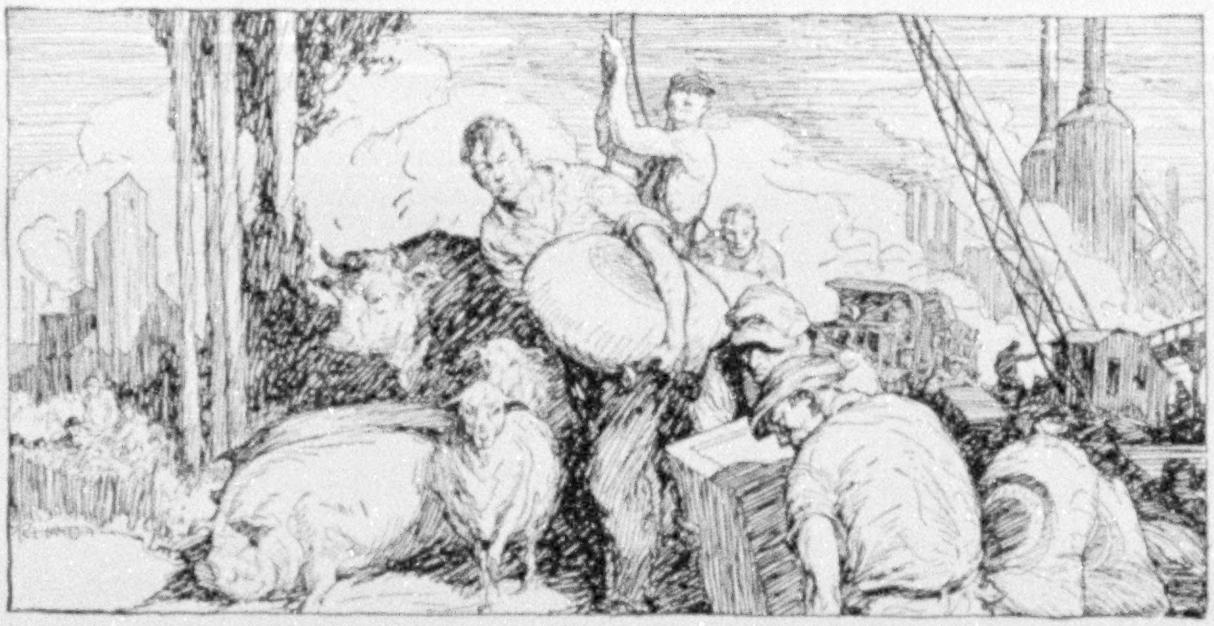


If you are going abroad on business, you will find our London and Paris offices very helpful in saving you time and trouble, and in obtaining business information.

THE EQUITABLE TRUST COMPANY
OF NEW YORK

LONDON 37 WALL STREET PARIS

Total Resources over $300,000,000



What Chicago Means To The World

CHICAGO is the storehouse of the nation. It supplies the world with much of its food, clothing, and machinery. In its contribution of essential commodities alone—Chicago, apart from its other contributions, would stand as one of the world's most necessary cities.

Chicago, in fact, does not belong to itself, but to people and nations distributed over the face of the globe. Its services are universal, its wealth and commodities are transported to the four corners of the earth.

The Continental and Commercial Banks are called upon to contribute banking service in keeping with the importance of Chicago's enterprise. They are qualified in resources, facilities and experience to help the city serve the world.

The CONTINENTAL *and*
COMMERCIAL
BANKS
CHICAGO
Over $55,000,000 Invested Capital

KIDDER, PEABODY & COMPANY

FOUNDED 1865

115 DEVONSHIRE STREET
BOSTON

18 BROAD STREET
NEW YORK

GOVERNMENT BONDS
FOREIGN EXCHANGE
LETTERS OF CREDIT
INVESTMENT SECURITIES

For The Investor

We undertake the investment of funds in Government and Municipal bonds and securities of corporations conservatively financed and ably managed.

For The Merchant

We issue Confirmed **Commercial** Letters of Credit, in sterling, on Baring Brothers & Co., Ltd., London, available in all principal foreign countries.

We buy and sell Exchange on the principal European Countries, and undertake the collection of drafts against **exportation** of merchandise.

For The Traveler

We issue Confirmed **Circular** Letters of Credit **in sterling** on London, **and in dollars** on Boston and New York, on the joint responsibility and subject to the joint services of ourselves and Baring Brothers & Co., Ltd., London.

CORRESPONDENTS OF

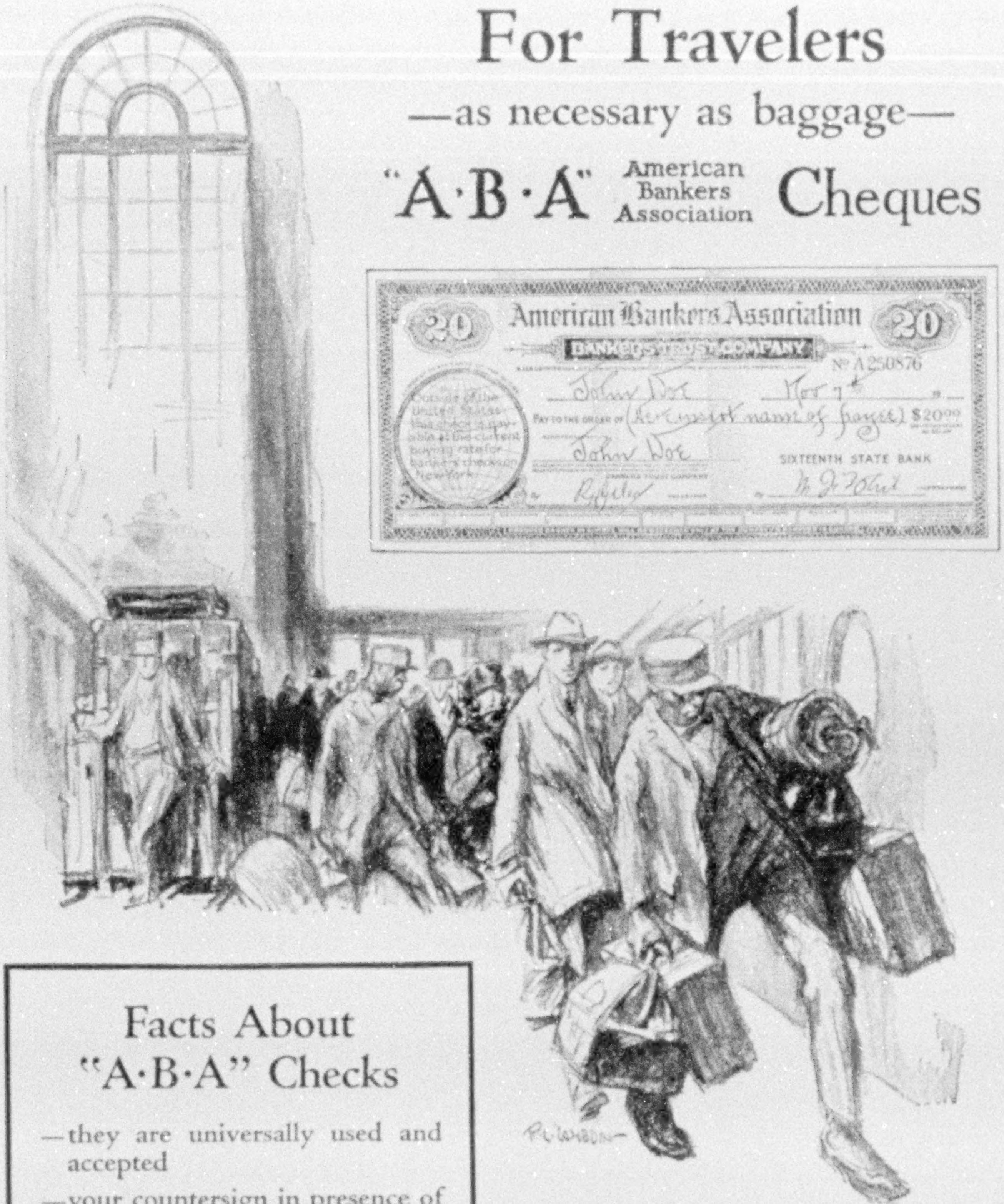
BARING BROTHERS & COMPANY, Ltd.
LONDON

XUM

For Travelers

—as necessary as baggage—

"A·B·A" American Bankers Association Cheques



American Bankers Association

20

BANKERS TRUST COMPANY

No A250876

John Doe

Nov 7th

Pay to the order of (here insert name of payee) $20.00

John Doe

SIXTEENTH STATE BANK

Facts About "A·B·A" Checks

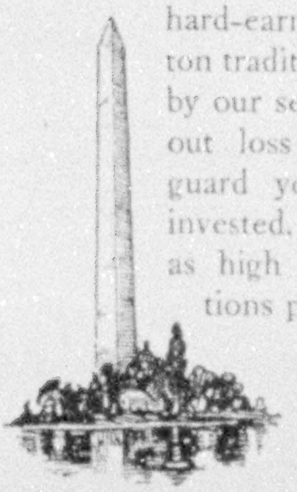
- —they are universally used and accepted
- —your countersign in presence of acceptor identifies you
- —if lost or stolen they cannot be cashed
- —safer than money, more convenient than personal cheques
- —issued by banks everywhere in denominations of $10, $20, $50 and $100

Bankers Trust Company

New York City

Fifty-Two Years Without Loss to an Investor

SAVE AND BUY MORTGAGES



FIRST mortgage notes on improved Washington real estate are a safe investment for hard-earned savings. Washington traditions of stability, backed by our service of 52 years without loss to an investor, safeguard your earnings when so invested. The interest return is as high as conservative limitations permit.

Write for detailed information

SWARTZELL, RHEEM & HENSEY CO.
SEVEN TWENTY NINE FIFTEENTH STREET
Washington, D.C.
THE NATION'S HOME TOWN

6%

WE HAVE PAID SIX PER CENT FOR 26 YEARS

In this old, conservative institution 6% interest begins the day we receive your remittance and continues until your money is withdrawn. Deposits amply protected by first mortgage on improved real estate.

If you have saved $25 or more, write for our booklet, "6% and Safety."

The Calvert Mortgage Company
877 Calvert Building BALTIMORE, MD.

STANDARD UNDERWOODS

5-Year Guarantee

$3.00 DOWN

Yes, this genuine Standard Visible Writing Underwood, newly rebuilt, at much less than factory prices, yours for $3.00 down and then easy monthly payments.

10 Days FREE Trial

Standard Keyboard

Try it for 10 days at our risk. Money back guarantee. Send now for free book. Big bargain offer

Typewriter Emporium, 2195 Shipman Bldg.
Montrose and Ravenswood Avenues, Chicago, Illinois

Deep-Rooted Investments

THE need of every investor who seeks peace of mind in times like the present, is for a safe, non-fluctuating, worry-proof security.

Such an investment is to be found in *Straus Bonds*—securities deep-rooted in the solid ground of our economic organization—safe—backed by a record of 39 years without loss. Investigate these bonds. Write today for

Booklet E-1108

S.W. STRAUS & CO.
Established 1882 Incorporated
New York - 150 Broadway
Chicago - Straus Building

Offices in Fifteen Principal Cities

39 years without loss to any investor

Copyright 1921, by S. W. Straus & Co.

Warning on Bonds

Watch these points in buying a bond and you will enjoy a security obtainable in no other way. 1. Don't buy until a security has settled. 2. Study fundamental conditions. 3. Watch holdings carefully for profitable exchanges. 4. Follow only *unbiased* recommendations.

Booklet on Request

The great confidence investors have in Babson's reports lies in the fact that the reports are absolutely unbiased. A booklet on bond-buying and a recent Babson report will be sent to interested investors, gratis.

Merely Ask for Booklet E-12

Roger W. Babson's Statistical Organization
Wellesley Hills, 82, Mass.
(Suburb of Boston)

The Largest Organization of Its Character in the World

CLIP OFF HERE

Memo *for Your Secretary*

Buying a BOND

Write Roger W. Babson, founder of The Babson Statistical Organization, Wellesley Hills, 82, Mass., as follows: Please send me a copy of Booklet E-12, "Buying a Bond," and recent report, gratis.

The instrument chosen by the greatest artists

All these great artists make records for the Victor

ALDA
BESANZONI
BORI
BRASLAU
CALVE
CARUSO
CLEMENT
CULP
DeGOGORZA
DeLUCA
DESTINN
EAMES
FARRAR
GALLI-CURCI
GARRISON
GIGLI
GLUCK
HARROLD
HOMER
JOHNSON
JOURNET
MARTINELLI
McCORMACK
MELBA
MURPHY
RUFFO
SCHUMANN-HEINK
SCOTTI
SEMBRICH
TETRAZZINI
WERRENRATH
WHITEHILL
WITHERSPOON
ZANELLI
ZEROLA

Violin

ELMAN
HEIFETZ
KREISLER
KUBELIK
ZIMBALIST

Piano

CORTOT
PADEREWSKI
RACHMANINOFF

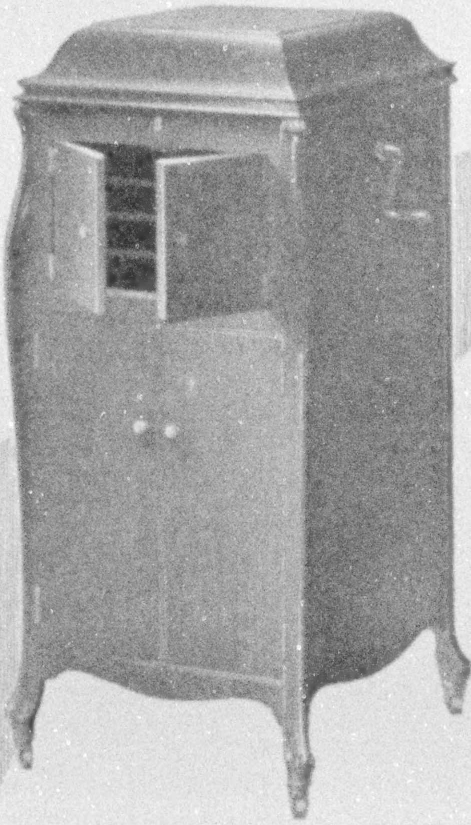
Violoncello

KINDLER

Orchestra

BOSTON SYMPHONY
FLONZALEY QUARTET
VICTOR HERBERT'S
TOSCANINI AND LA SCALA
PHILA. SYMPHONY

ALSO RECORDS BY THE LATE GERVILLE-REACHE, GILIBERT, PATTI, PLANCON, POWELL, TAMAGNO AND WILLIAMS



Victrola XI
One of the popular priced models
$150

The most cherished possession of the great singers and instrumentalists is their art, and their keenest desire is that under all circumstances they shall be heard at their best. It is in appreciation of this fact that the greatest artists of this generation have become Victor artists, and their unqualified endorsement of the Victrola is the most conclusive evidence of its artistic superiority.

There are Victrolas in great variety of styles from $25 to $1500. Victor dealers everywhere.

Victor Talking Machine Co.
Camden, New Jersey

"HIS MASTER'S VOICE"
REG. U.S. PAT. OFF.

This trademark and the trademarked word "Victrola" identify all our products. Look under the lid! Look on the label!
VICTOR TALKING MACHINE CO.
Camden, N. J.

Victrola

REG. U.S. PAT. OFF.

VOL. XXXIX, NO. 5 WASHINGTON MAY, 1921

THE NATIONAL GEOGRAPHIC MAGAZINE

COPYRIGHT, 1921, BY NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON, D. C.

WESTERN SIBERIA AND THE ALTAI MOUNTAINS

With Some Speculations on the Future of Siberia

By Viscount James Bryce

Author of "Impressions of Palestine," "The Nation's Capital," and "Two Possible Solutions for the Eastern Problem," in the National Geographic Magazine

SINCE JULY, 1914, no American, Englishman, or Frenchman, except those officers who were sent out on military missions, has had a chance of traveling along the great Transcontinental Railway which connects western Europe with China and Japan; so before I come to speak of the Altai Mountains, it is worth while to say something of this wonderful highway of commerce, along which I passed in 1913, on my return to England from Japan.

From Calais, on that arm of the Atlantic which we call the English Channel, to Vladivostok, on that arm of the Pacific we call the Sea of Japan, it is more than 7,000 miles, while from New York to San Francisco it is only about 3,000 miles.

An interesting comparison may be made between these two transcontinental roads, on opposite sides of the world, linking the Atlantic with the Pacific.

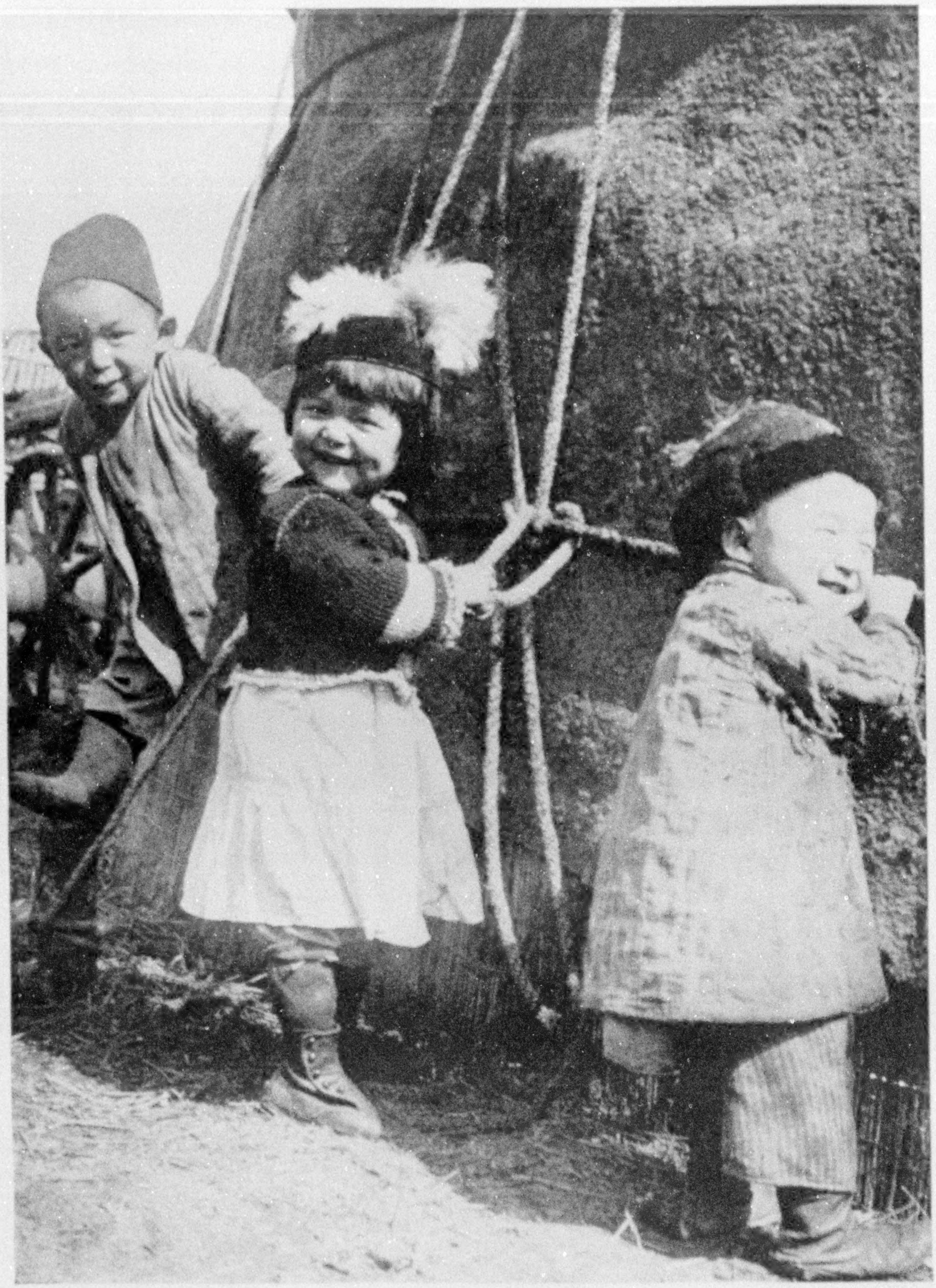
Each when it leaves the Atlantic coast runs for more than 1,500 miles through civilized and thickly peopled regions, mostly agricultural, though studded with cities. Each when it approaches the center of the continent climbs a mountain range and passes over vast tracts of wild and thinly inhabited country, sometimes through deserts, sometimes through forests. Each crosses great rivers; each coasts along the shore of a large and beautiful inland sea. Each emerges finally from the solitudes of its middle course into a rich and prosperous land and finds its end at a famous harbor—the American Transcontinental at San Francisco, the Asiatic Transcontinental at the equally spacious and well sheltered, if less beautiful, port of Vladivostok.

Along both roads there is a great variety of scenery, much of it striking, but the Asiatic line has an interest that is all its own in the variety of the peoples also through which it passes. One language only rules from the Hudson to the Golden Gate, whereas between Calais and Vladivostok many tongues are spoken and many races of men—Hollanders and Germans, Poles and Lithuanians and Russians, Bashkirs and Buriats, Manchus and Chinese—have their homes.

FROM CALAIS TO MOSCOW

The best way to enjoy the Asiatic Transcontinental journey is to begin at the west end and travel east, whereas the American Transcontinental should be taken from the east toward the west, and for the same reason, viz., that it is more interesting to start from civilization and pass by degrees into wilder regions, more solitary and more picturesque, which keep curiosity constantly alive, than it is to reverse the process.

So, although it was my own fortune to have to travel from the east to the west, I will venture to conduct the reader the



© Underwood & Underwood

KIRGHIZ CHILDREN AT PLAY

There are more than three million members of the Kirghiz family—a Mongolian people inhabiting an area of nearly 3,000,000 square miles, extending from northwest China to the lower Volga River. There are two main branches of the family—Kara, or Black Kirghiz, so called from the color of their tents, and the Kazaks, or riders, from which term the word Cossack is derived.

XUM

Photograph courtesy Department of Commerce

A GROUP OF SIBERIAN CHILDREN IN FRONT OF A COÖPERATIVE STORE ESTABLISHED BY THE SIBERIAN GOVERNMENT FOR THE DISTRIBUTION OF PROVISIONS TO THE NEEDY

other way, *i. e.*, from western Europe to far eastern Asia. (See the National Geographic Society's Map of Asia, issued as a supplement with this number of THE GEOGRAPHIC.)

Of the comparatively familiar 1,600 miles or thereabouts from Calais to Moscow, nothing need be said, except that so far as the aspects of nature are concerned they are comparatively monotonous, for the surface is an almost unbroken level, only one group of low mountains in Westphalia rising out of the sandy plains of western and central Germany.

From Moscow onward the land, though generally flat, has its undulations; but to the eye of a naturalist it continues to be somewhat uniform, for there are very few deep railway cuttings to indicate the rocks that lie beneath the surface, and as the country traversed is nearly all either cultivated or forest-clad, few wild plants are seen, and these, the latitude being the same, are of the usual Central European types.

The first striking view is reached at the town of Samara, where the broad Volga, greatest of European rivers, is crossed by a long and lofty bridge, more than five hundred miles above the point where it enters the Caspian Sea. Here for the first time one feels a change in the air, for here begins the dryness of the Asiatic steppes.

CONSUMPTIVES CAME TO DRINK MARES' MILK

Thirty-seven years ago, when I sailed down the Volga, the railway ended at this point. Thither, in that day, consumptive patients used to come from northern and middle Russia to drink mares' milk and gain strength in the invigorating breezes that came from the southeast over arid plains. It was then the summer sanatorium of Russia, as the south coast of Crimea was the winter resort of those rich enough to travel so far.

A hundred miles beyond the Volga blue heights appear on the eastern horizon, and we quickly enter the foothills of the Ural range, their gently rounded slopes descending into charming valleys, pasture alternating with open woods which

XUM

© Underwood & Underwood

SETTLERS FROM EUROPEAN RUSSIA ARRIVING AT A RAILWAY STATION IN SIBERIA

The conquest of Siberia by Russia began in the reign of Ivan the Terrible, who gave to two merchants the right to build forts on the rivers Tobol and Irtish. These merchants, Jacob and Gregory Stroganov, hired 800 Cossacks, under the leadership of the Volga River pirate, Yermak, to protect their recently acquired territory. This band penetrated far into the interior and in 1581 captured Sibir, capital of the Siberian Tatar Empire.

distantly suggest those of the "Parks" of Colorado—woods not thick, because the climate is dry, but scattered in picturesque clumps over hill and dale.

As the line pierces deeper into the mountains, the glens are narrower and are filled with a denser forest, out of which bare summits rise to heights of three or four thousand feet. It is a lonely land, with few and small villages, but it is rich in gold and silver, copper, coal, and platinum—from here comes nearly all of the world-supply of that metal—with an extraordinary variety of rare and valuable stones.

The train takes about seven hours to traverse this picturesque region, stopping here and there at a busy mining town, and passing an obelisk which, at the summit level, marks the frontier of Europe and Asia. Thereafter it emerges suddenly (for the Asiatic slope is shorter and steeper than the European) on the boundless plains of Siberia, here bare and almost waterless as are those of Arizona, but drearier, for there are here no rocks or hollows to diversify the surface, no glimpses of distant peaks to break the level line of the horizon. It is the dullest part of the whole journey from ocean to ocean.

IRTISH, THE WESTERNMOST OF SIBERIA'S FOUR GREAT RIVERS

But presently one comes, at the thriving town of Omsk, which was in 1918 the headquarters of Admiral Kolchak in his campaign against the Bolsheviks, to the first of the four great Siberian rivers, the Irtish, which, having risen far away to the south in the hills of western Mongolia, is here on its northern path to join the Obi and send its waters into the Arctic Sea.

To the Obi itself, an even fuller stream, we come in eight hours more, and see a flotilla of steamers moored to its bank. But of it more anon, for up it one voyages to the Altai. From this point onward the country is rougher and thinly inhabited, for much of the land is the sort of forest swamp which the people call *Taiga*.

On each side of the railway track the woods have been cut back to leave an open space of fifty to one hundred yards wide, so that sparks or coals from the locomotive will not start a conflagration. This open, wide grassy belt is in summer covered with a luxuriant growth of tall flowers on each side of the line, giving the effect of what gardeners call a "herbaceous border," with the railroad track for the gravel walk between the two flower beds.

Behind stand the pines, with their tall, straight, reddish trunks, contorted boughs, and dark-green foliage, beautiful as are those of the Scottish Highlands.

THE YENISEI, GRANDEST OF SIBERIAN RIVERS

After many hours' journey through this delightful parterre, the traveler sees beneath him in a valley, three hundred feet deep, the grandest of all the Siberian rivers, the Yenisei, with the city of Krasnoyarsk lying on the slope between the station and the stream.

This is the finest view of a river from a railroad I can remember to have seen anywhere. The Mississippi at St. Louis and the St. Lawrence at Montreal are as wide, and may have as great a volume; but their banks are comparatively low. Here the *coup d'œil* of the bold heights and the mighty stream filling the long hollow that winds away to the north between rocks and thick woods, is magnificent.

The stream is seen to advantage from both sides, for the track stoops down more than a hundred feet to cross the valley by a lofty bridge, and rises again as much on the eastern slope, making a wide semicircle.

Thirty hours more bring us to the fourth river at Irkutsk, that capital of eastern Siberia for which the contending Bolshevik and anti-Bolshevik armies fought so long in 1917 and 1918. It is the Angara, bearing down a tremendous torrent of clear green water from Lake Baikal, which the train reaches before long.

BAIKAL, ONE OF THE WORLD'S GREAT INLAND SEAS

Lake Baikal is one of the great inland seas of the world, nearly as long as Lake Superior, though not so wide, for in clear weather the eye can reach from the one shore to the other. It fills a bow-shaped depression four hundred miles long, between high mountains dipping steeply into its waters; and on its coasts there are only wood-cutters and fishermen, with a few hunters.

Till long past the middle of last century, some while before the Transcontinental railroad was built, there was no way from the west into the lands of the Amur River and Manchuria except by a ferry across the lake of some twenty or more miles in the summer, or by sledging over its icy floor in winter, and the travelers of those days loved to describe the midnight drive under a brilliant moon.

Now the line runs for many miles along its southern shore on a shelf cut out of the steep mountain side, high above the waves, with frequent tunnels through projecting cliffs.

It was supposed, when fighting began there in and after 1917, that any retreat-

XUM

Photograph by C. S. Stilwell

A SIBERIAN PEASANT

His is a land forty times as large as Great Britain and Ireland, but with only one-fifth the population.

mile till all tints melt into the blue of distance.

Solemn and lonely in its mountain setting, the Baikal yields in grandeur to only one other fresh-water sea, Lake Titicaca, on the plateau of Bolivia, above which tower the peaks of the Cordillera Real, the finest line of snows in all the ranges of the Andes.

WHERE THE TRANS-SIBERIAN DIVIDES

Presently the railway, leaving the lake, turns south up the valley of the Selenga River, and thence climbs the slopes, and threads for many miles the ravines of the great mass of rugged and almost uninhabited highlands which figure on our maps as the Yablonoi Mountains. Beyond these come wide plains, and beyond these plains another mountain range, till at Harbin the line divides, one branch turning southwest to Peking, the other southeast to Vladivostok.

ing force would be likely to cover its rear by destroying the track in some part of the shelf, behind or above which no passage could be found. I have not, however, been able to learn whether this has happened.

The line runs high along the curving shores for forty or fifty miles, affording a succession of splendid prospects. Beneath are woods, mostly of birch and aspen, richly yellow in autumn, and wherever they have been cleared the space is filled by a profuse growth of the tall willow herb (*Epilobium angustifolium*), called in North America the fireweed, whose deep pink blossoms make a waving sea of color, stretching mile after

Henceforward there are no more Russians to be seen, nor the Buddhist or spirit-worshiping tribes over whom Russia rules, for we are now in Manchuria, where the population is mainly Chinese.

From overcrowded China the industrious Celestials, no longer wearing pig-tails (for the Republic abolished that custom), swarm out in all directions; and had not the Russians in the middle of the last century established their power in the country south of the Baikal and all down along the Amur River to the sea, these regions would have soon been peopled by Chinese emigrants.

The last part of the way from Harbin to the Sea of Japan is, perhaps, the most beautiful, for the soil is fertile, the pastures excellent, the landscapes charming, and the wealth of flowers surpasses that of western Siberia. Even after seven or eight days of unbroken travel from Moscow, the summer tourist comes reluctantly to the end of such a journey.

All that stopped in 1914. When will any tourist find the journey possible once more?

So soon as peace and order have been restored, under whatever government may rule, that government will begin to repair and equip the railroad; but to do this from end to end, through a country impoverished by years of war and blockade, will be no short or easy task.

So much for the Transcontinental Railway, the one great factor in the social and economic life of Siberia which those who wish to understand the country must keep always in mind.

Now let me speak of western Siberia in particular, and of the excursion into the Altai Mountains which I have to describe.

Photograph from Horace Brodzky

TWO RUSSIAN GYPSIES OF IRKUTSK

PREPARING FOR A TRIP TO THE ALTAI MOUNTAINS

In 1913 Siberia was just as open to travelers as was European Russia, but everywhere in the Tsar's dominions whosoever sought to diverge from a regular railway or steamboat route found that he could not get along without facilities granted by the government.

Before starting for the mountains it was therefore necessary to obtain letters of recommendation to local authorities, and the official permission to call for horses at post stations. To get these indispensables I went to Tomsk, the administrative capital of western Siberia, to present to the Provincial Governor the credentials I had brought along with me.

Tomsk lies fifty miles north of the Transcontinental Railroad, to which it is joined by a branch line. Why, considering the importance of the city, was not the main line made to run through it, there being no engineering difficulties to prevent this?

Every traveler asks this question, and receives—so, at least, I was told—the same answer. The Tomsk people did not pay a sufficiently high "gratification" to those officials with whom it rested to prescribe the course of the railway.

I was reminded of a like question and a like answer when, three years before,

Photograph from Ella R. Christie

FLOWER GIRLS AND BOYS AT A WAY STATION ON THE TRANS-SIBERIAN RAILWAY

being on the west coast of South America, I inquired why large sums were being expended on the construction of harbor works at Antofagasta when, only a few miles away to the north, there was a better sheltered bay at Mejillones. "Because," was the reply, "there was nobody at Mejillones to put up the money that was needed to outbid the people who wanted the harbor to be at Antofagasta."

WHERE COURTESY BECAME A TRIAL

We arrived at Tomsk at 1 a. m. and on stepping out of the cars were received by a bevy of uniformed officials, headed by the chief of the police, a grave personage, decorated with seven medals and six orders (crosses and ribbons). In Russia under the old régime orders and medals were distributed according to length of service and the satisfaction given to the superiors in the department, and the medals determined and indicated the salary paid, a useful method in a bureaucracy both of securing perfect subservience and of impressing the mind of the undecorated private citizen.

We were driven three miles through woods to the city—in Siberia, as in India, stations are apt to be far from towns—and lodged in a passable hotel, where, however, though it was August, no window was open or could be opened, and baths were unattainable.

No one spoke anything but Russian, and as I had forgotten the little I had learned thirty-seven years before, the position was difficult. Our police chief's sense of duty and politeness compelled him to remain along with us, though it was now 2 a. m. and our grateful and frequently repeated bows did not seem to intimate to him that his further stay was needless.

Searching up and down through a Franco-Russian phrase book, I could find, as usually happens, no sentence that fitted the occasion, but many that seemed

Photograph from Ella R. Christie

THEY HAVE HAD FEW TRAVELERS TO BUY THEIR POSIES DURING THE LAST SIX YEARS (SEE ALSO ILLUSTRATION ON OPPOSITE PAGE)

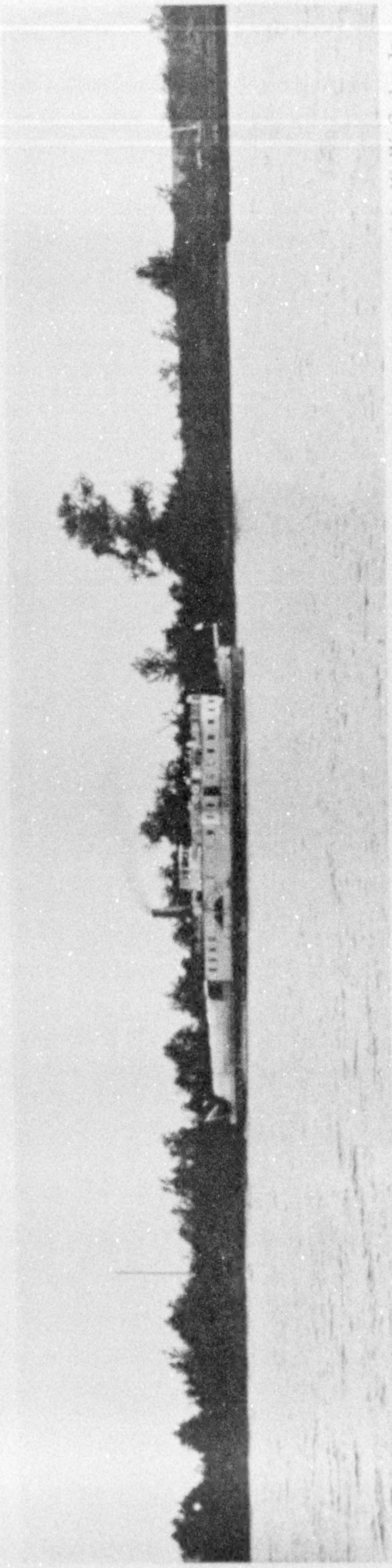
designed for occasions far less likely to occur, among which I recollect this: "Have you seen the crocodile?"—a question singularly inappropriate in an empire none of whose waters are warm enough for that animal.

At last, however, we found words the equivalents to "Many thanks," and "Farewell," and the highly decorated Tchinovnik (the Russian term for a member of the civil service) departed, returning next morning to bring with him a Danish gentleman, a mining engineer, who spoke English and proved very helpful, discovering for us an interpreter to accompany us on our journey. We were surprised to find that in a city of sixty thousand people nobody, except one or two university professors, seemed able to speak either German or French.

CELEBRATING THE "NAME DAY" OF THE TSAREVITCH

When we awoke next morning all the bells were clanging, for it was the "Name Day" of the Tsarevitch, the delicate child destined one day, if his thin thread of life could be kept from breaking, to mount the imperial throne and rule over nigh two hundred millions of men.

All the functionaries of the city—military, civil, and educational, each



Photograph by W. W. Cutler, Jr.

A FREIGHT-BOAT ON THE OBI, ONE OF THE FOUR GREAT RIVERS OF SIBERIA

Rising in the Altai Mountains and flowing northward into the Gulf of Obi, an inlet of the Arctic Ocean, the Obi has a total length of 2,000 miles, 1,600 of which are navigable.

decked out with his orders and medals—flocked to the cathedral to attend the solemn service in honor of the day. The service was long, as those of the Orthodox Church always are, and only the sweet voices of the choirs relieved its tedium.

We knew that all over the Russian dominions, from the Baltic to the Pacific, every official and every priest and bishop was imploring the blessing of God upon the boy whose life was so precious.

As the worshipers bowed and knelt, as the voices sank and rose, what a wonderful thing, we thought, is this Russian Cæsarism, what a hold it has on the obedience, if not the affection, of its subjects, buttressed as it is by the Orthodox Church, with an omnipresent army of officials to execute its will! But within five years the innocent boy was, with his parents and his sisters, murdered in a cellar at Ekaterinburg, in the Urals, and not a Russian voice throughout what had been the Empire of the Tsars was raised in anger or in sorrow.

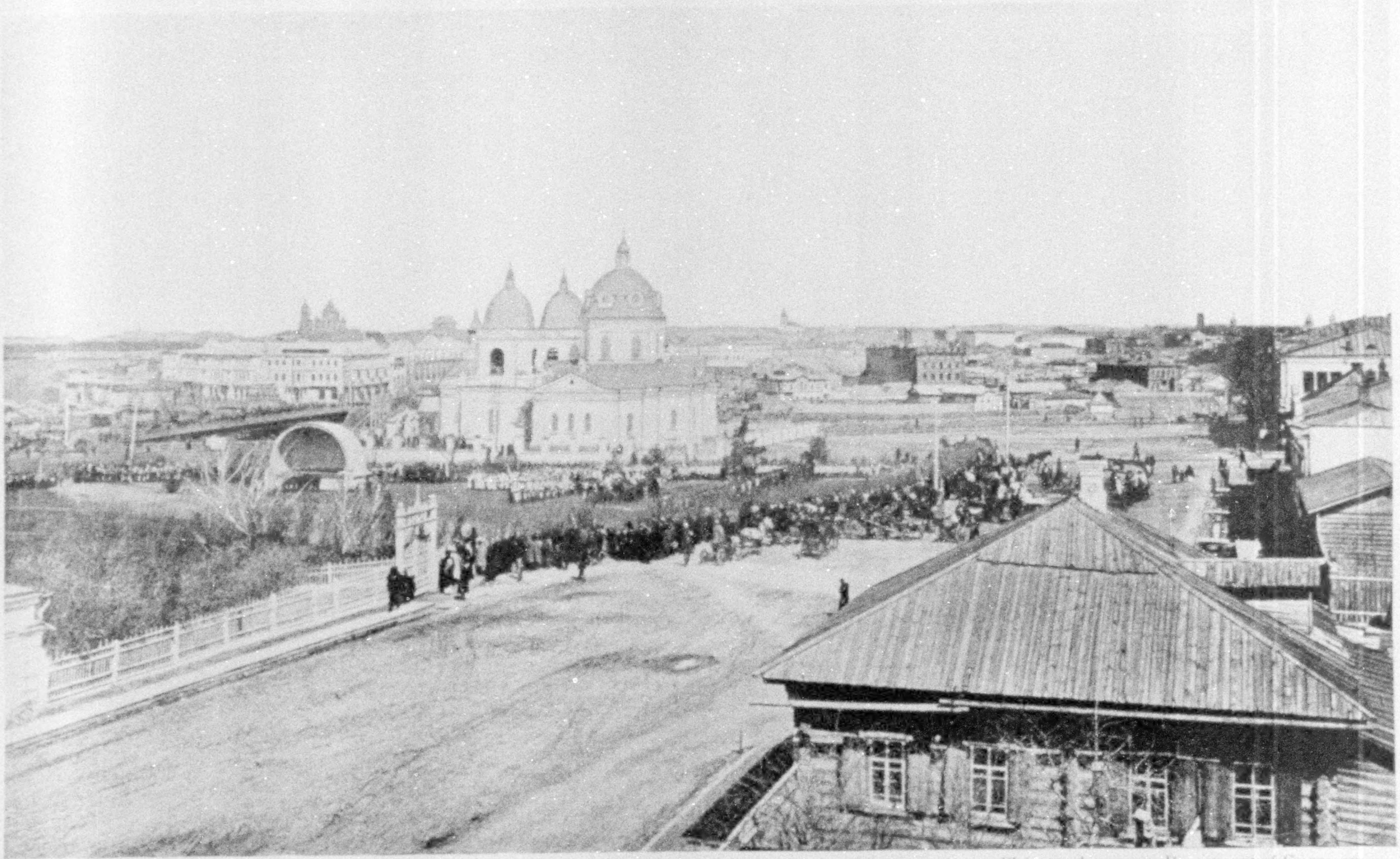
THE LEGEND OF TSAR ALEXANDER AS A HERMIT

Tomsk is a large, irregularly built town, straggling from a hill on which stand the cathedral, with its three bulbous domes, and the huge barrack-like university, where law and medicine were being taught to a thousand students, down to the river Tom, navigable for small steamers and carrying a considerable trade.

From the other side of the stream the place looks quite picturesque, brightened by the colors of the church domes and roofs, painted blue or light green, and the house roofs also often red or green; so the general aspect has, from without, a gaiety which the interior belies.

Of the inhabitants, all Russians, for the thinly scattered native tribes live far off to the north, about one-third are exiles or the descendants of exiles. Depressing as Europeans think life must be on a featureless plain, where snow lies more than half the year, they seem as cheerful as men are in Berlin or Rotterdam or London.

One strange tale is told, and universally believed, that the Tsar Alexander the First did not expire at Taganrog, on



Photograph courtesy Department of Commerce

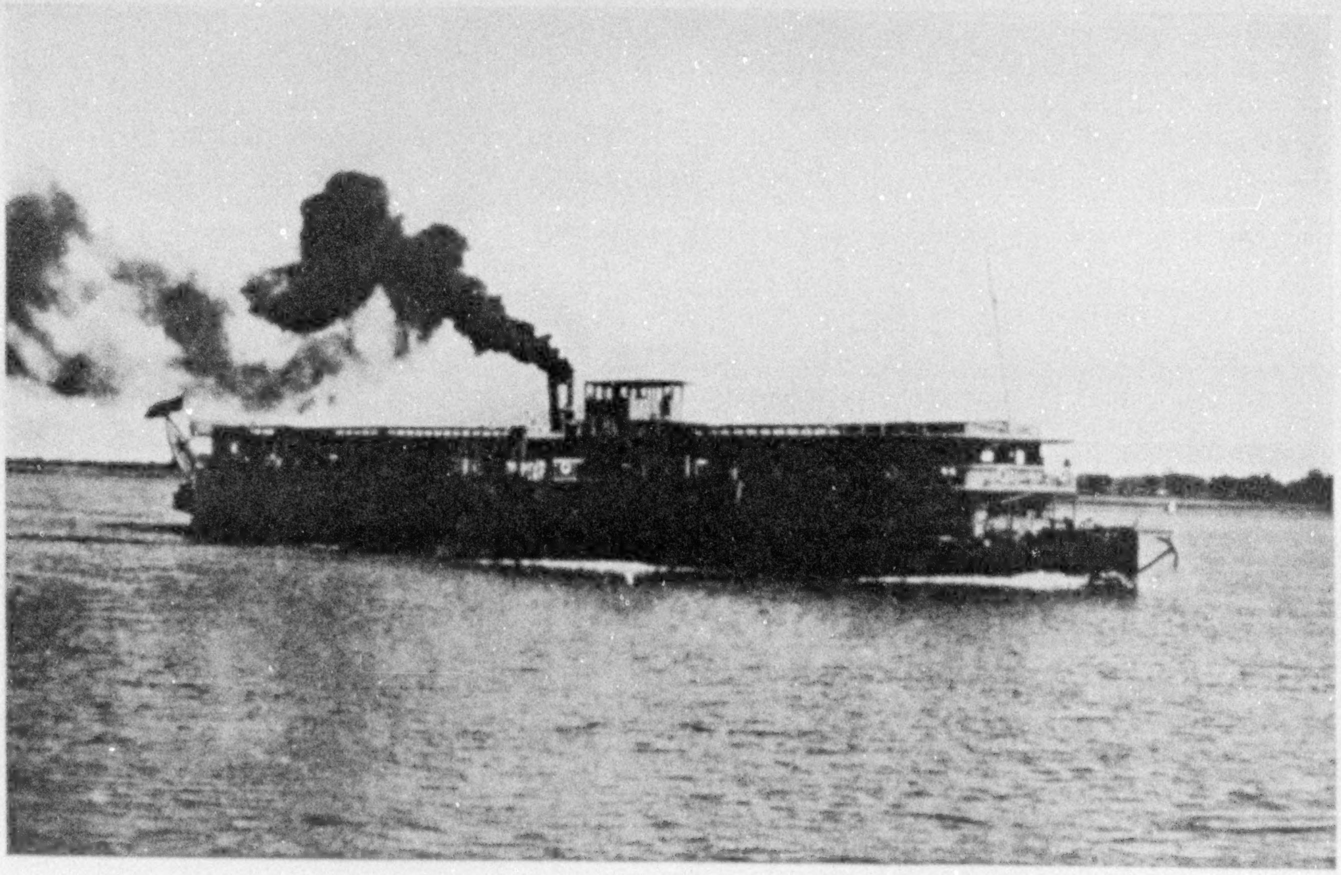
A VIEW OF OMSK, FORMERLY CAPITAL OF ALL WESTERN SIBERIA

Eighteen hundred miles east of Moscow, Omsk is the meeting-place of highways to middle Russia, Orenburg, and Turkestan. It is visited by violent sandstorms in summer and snowstorms in winter.

XUM

CROSSING THE RIVER OBI IN A ROWBOAT

Siberia has some of the largest rivers on the globe—the Obi, the Irtish, the Yenisei, and the Lena—but their value as freight carriers is greatly reduced by the fact that all have their outlet in the Arctic Ocean. For only a few weeks during midsummer can vessels from western Europe make their way through the Kara Sea, east of Novaya Zemlya, to the Gulf of Ob (Obi).



Photographs by W. W. Cutler, Jr.

A PASSENGER BOAT ON THE RIVER OBI

The cabins of these steamers are small and rough but clean. "From the deck one looks over a wide, smooth plain, the uniformity of the prospect in all directions broken only by the sweeps and curves of the mighty stream" (see text, page 485).

Photograph by D. A. Foster

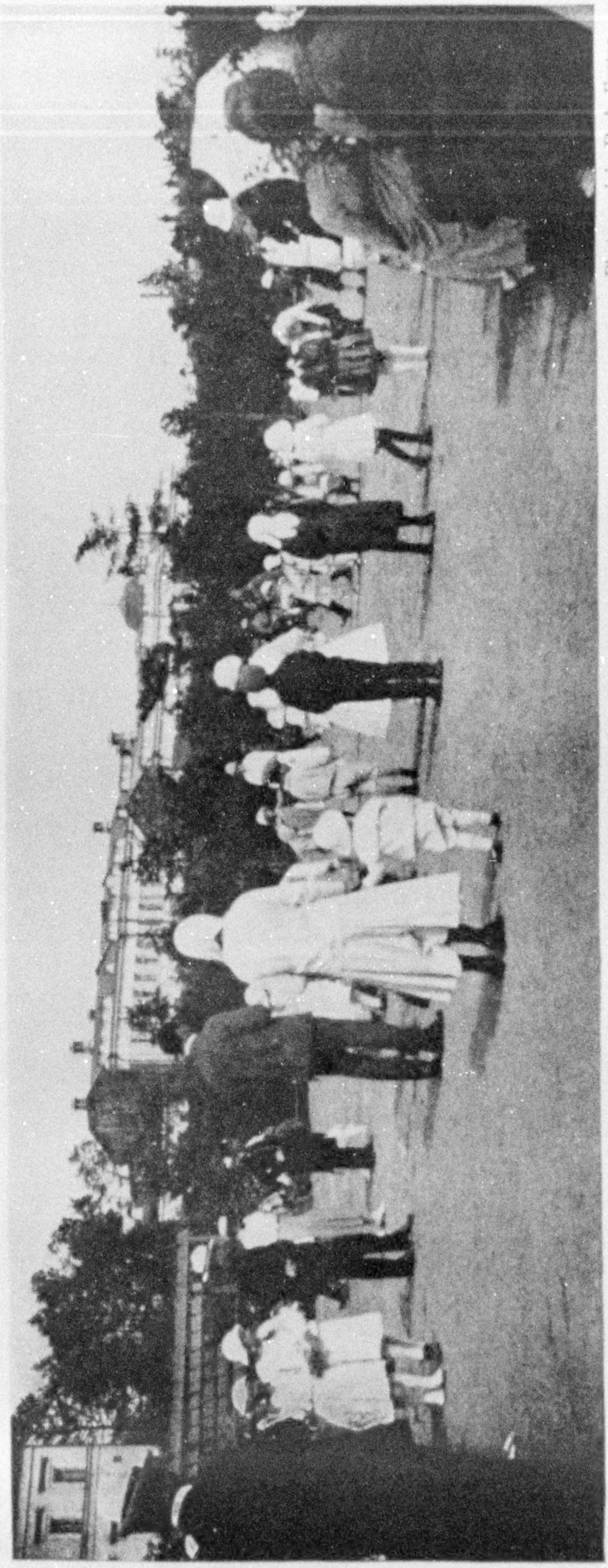
AMERICAN ARMY OFFICERS IN A SIBERIAN WHEAT FIELD

Agriculture is the principal occupation of the natives of Siberia as well as of the emigrant Russians. It is estimated that half a million square miles of the empire are suitable for cultivation. The chief grain-producing regions are the Tobol and Ishim valleys, the marshy steppe between the Obi and Irtish rivers known as the Baraba, the territory around Tomsk, and the foothills of the Altai Mountains.

Photograph by Maynard Owen Williams

A GLIMPSE OF SIBERIA'S LUMBER INDUSTRY

South of the treeless northern tundras lies the almost illimitable forest zone of Siberia, abounding in birch, larch, and the conifers. With the improvement of transportation facilities, the lumber industry will prove an enormous national asset.



Photograph by D. A. Foster

CHILDREN AT PLAY IN ALEXANDRIA PARK, IRKUTSK

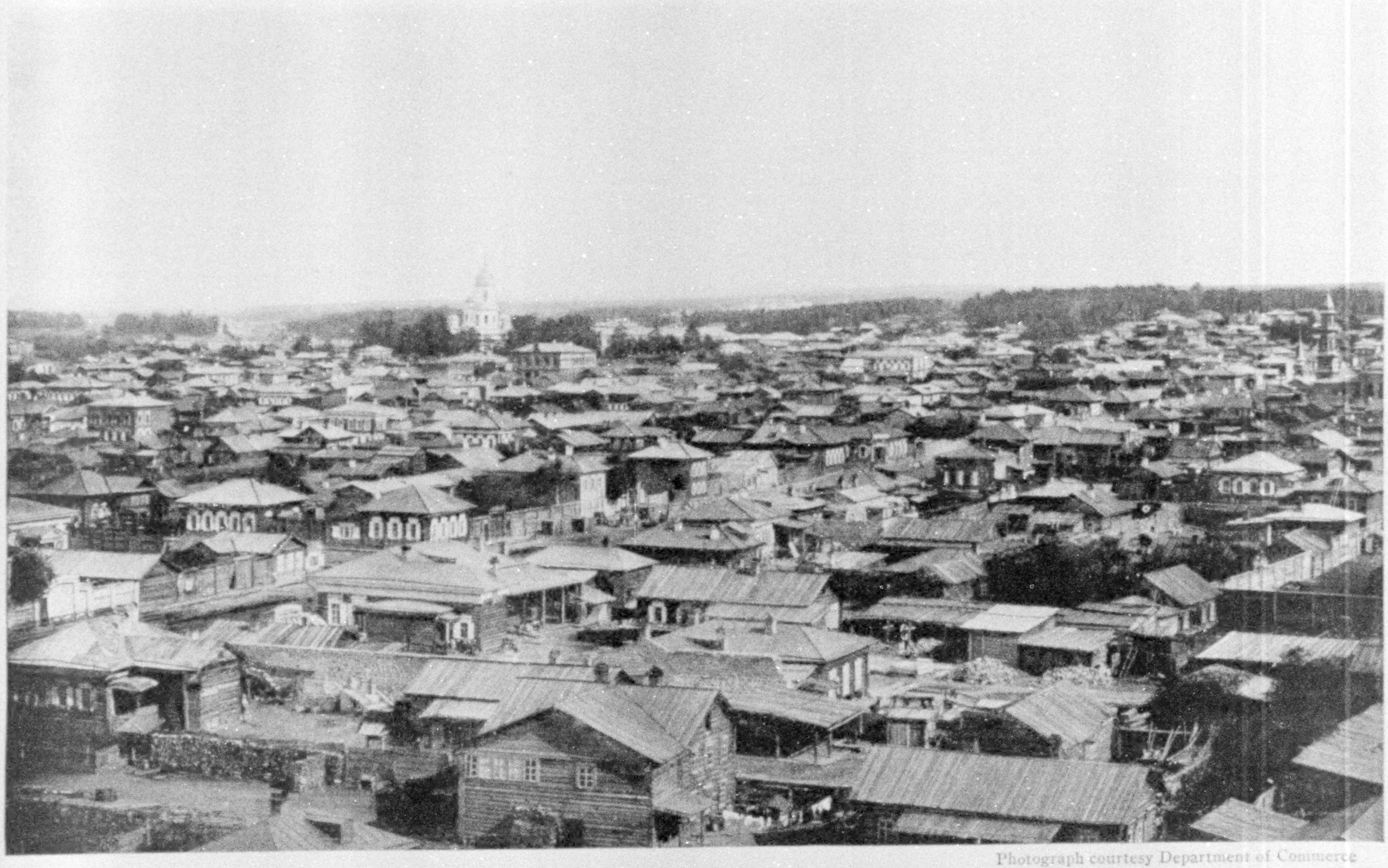
the Don, in 1825, as was supposed, but caused the body of a soldier who had died in the hospital at Taganrog to be represented and buried as his, while he himself secretly stole away in the garb of a pilgrim and made his way among a troop of emigrants to Tomsk, where he thereafter lived a religious life as a hermit till extreme old age.

I was told of men alive in Tomsk who, in their youth, had seen him, but no one could say whether the hermit encouraged the belief that he had been Tsar. If he did, he gained nothing from it, except freedom from molestation and additional veneration from the people. Slight as the evidence for the story seems to be, there was nothing in Alexander's character, pietistic and emotional, to make it impossible.

A MOUNTAIN LAND OF MYSTERY

Now, before I come to the journey, a few words on the Altai. It is the name given to the southwestern part of a great mountain mass which divides the lowlands of Siberia from the plateau of central Asia, sending forth on one side the great rivers that flow north to the Arctic Ocean, and on the other, the southern and drier side of the range, smaller streams that lose themselves in the lakes or marshes of Mongolia.

Most of this vast mountain land is unexplored, and only a small part has been surveyed for the purpose of locating the mineral wealth it is believed to contain. As a boy, I had sought to learn something about it

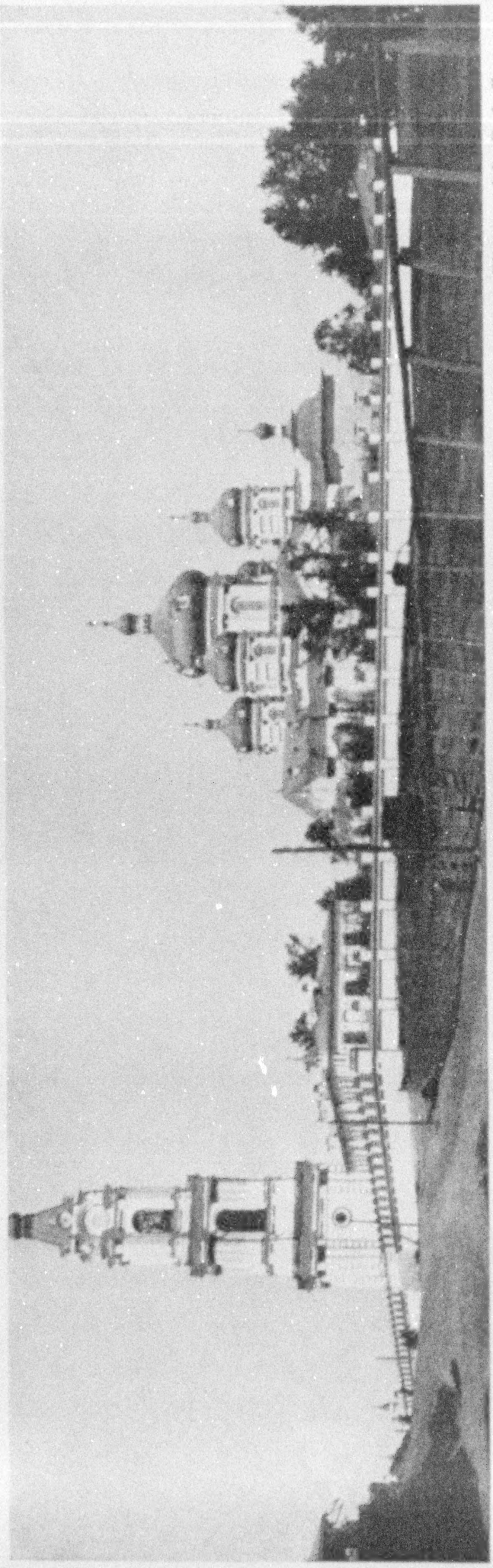


Photograph courtesy Department of Commerce

A VIEW OF IRKUTSK LOOKING TOWARD JERUSALEM HILL

The Irkutsk Cathedral, originally built of wood in 1693, was rebuilt of stone 200 years ago.

XUM



Photograph by D. A. Foster

THE VOZNESENSKI MONASTERY, FIVE MILES FROM IRKUTSK

This ecclesiastical establishment was founded in 1672 and contains the bones of St. Innocent. Most Russian churches are rectangular in form, with five brightly colored domes, the largest of which is in the middle, and each is surmounted by a Greek cross. In the lofty detached tower or campanile are the bells, which are not swung but fixed, only the clappers being movable.

from books of travel, and been able to discover scarce any that had aught to tell; and when I began to read the history of the East, curiosity was reawakened by finding that from the very beginning of history all these regions north and east of the Black Sea and the Caspian had remained unvisited and unknown from the days of Homer down to those of Marco Polo.

Unknown and mysterious, but also terrible, for out of the mists that shrouded them there came from time to time hosts of fierce horsemen, who broke like sudden thunder-storms on the civilized peoples of the eastern Mediterranean and of Europe.

As the Cimmerians and Scythians had descended on Media and Asia Minor and Syria long before the Christian era, so in the fifth century Attila led his Hunnish hordes across Germany into Italy and Gaul, followed by Avars and Bulgarians and Magyars, and in the thirteenth century there came the tremendous invasion of the Mongols under Genghis Khan.

Of this region of mystery and the great mountains that rise in its midst, it was possible to receive some impressions by diverging from the line of homeward journey along the Transcontinental Railway, so we seized the opportunity. Everybody told us that we should have plenty of discomforts or even hardships to encounter, but, being seasoned travelers, we were not deterred, and even, perhaps, put upon our mettle to see whether we could not still "rough it" as in former days.

To reach the glaciers and climb the great peaks would be impossible, for we had no tent or other equipments for high mountaineering, but we could at least have a glimpse to make the mountains live as realities in memory.

A MUSHROOM TOWN IN SIBERIA

Our point of departure was the town of Novo Nikolaevsk, a mushroom growth of the years since the opening of Trans-continental line, for it stands at the meeting point of two great lines of trade—that of the Obi, which brings down the minerals and the grain and the butter from the south, and that of the railway which carries these products eastward to Irkutsk and beyond to the Pacific, westward to Russia and Germany. It reminded me of the new cities in the newest parts of America, with its big warehouses rising fast along half-finished roadways, while the untouched prairie, dotted here and there with scrub birches, lay just outside the houses.

In another ten years, had peace continued, Novo Nikolaevsk would have become the most populous place in all Siberia. By now it may have gone to pieces.

Steamers lay thick along the river bank; and in one of these we embarked. The cabins were small and rough, but clean; the food, scanty and unappetizing, was sufficient to support life; and though the days were hot with a strong August sun, the nights were cool, the dry air of the steppe deliciously fresh and invigorating.

From the deck one looked over a wide, smooth plain, the vast dome of heaven resting on a level horizon, the uniformity of the prospect in all directions broken only by the sweeps and curves of the mighty stream.

THE GRANDEUR OF A GREAT RIVER

Nothing in nature is grander than a great river. It embodies the irresistible strength of the forces of nature and their changeful activity, ever the same and yet ever different, here with a glassy surface, there swirling with deep eddies, making and unmaking islets, here eating away the bank, there piling up sand to enlarge it. It is older than man, and will outlive him: it is a part of his life, serves him in many ways, but it heeds not his coming or going.

These great Siberian rivers specially impress the imagination, because their sources lie in unexplored snowy solitudes, and from their middle course in habitable lands they descend into a frozen wilderness—*terra domibus negata*—to find their ending in an ice-bound sea.

We had just come from a long voyage up and down another famous river, the Yangtze, singularly unlike its Siberian sisters in this, that it is the central avenue of commerce through a highly cultivated country, passing on its way many cities swarming with people, and bearing on its bosom not only steamships, but fleets of sailing craft such as can be seen nowhere on Rhine or Danube or Mississippi, or even on the Nile, where once they carried all the traffic of the country.

Here, on the Obi, not a sail was to be seen and hardly even a rowboat. The steamer calls rarely, and then it is to discharge or take in freight, for passengers are few.

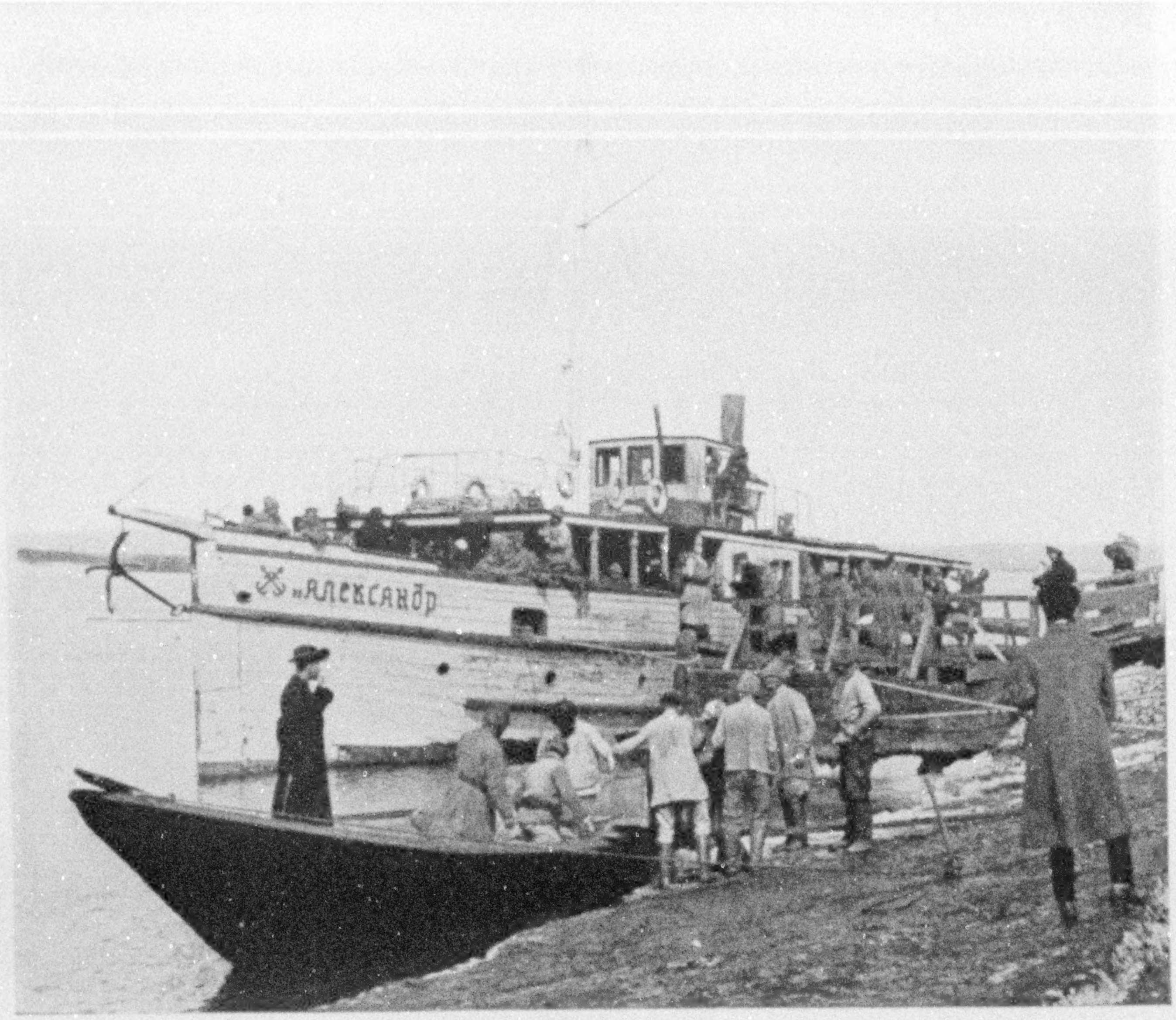
FEW VILLAGES ARE SEEN ON THE BANKS OF THE OBI

Like the Mississippi and Volga in their middle courses, the Obi has scooped out for itself a wide flat or depression about seventy feet below the general level of the steppe and swings itself hither and thither across this flat, so that when it is close under the high bank of the steppe on one side it is far from the high bank on the other side. The banks are of alluvial soil, and usually bare, but the low shores and the islands are covered with a growth of willows and poplars.

The few villages on the banks, usually where a small side stream comes down, are clusters of rough wooden huts, irregular and dirty, with the blue cupola of a whitewashed church rising in the midst.

The peasants, stalwart fellows in colored flannel shirts, crowd down to the landing place when the boat puts in; the women, not handsome, but with pleasant kindly faces, wear gaudy blue or red or yellow skirts, with handkerchiefs, mostly white, tied round their heads. All are Russians; it is only in the town of Barnaul, a commercial center to which all the minerals are brought, that one sees now and then an aboriginal nomad from the steppes to the south, over which hills, outliers of the Altai, begin to show themselves.

XUM



Photograph from Horace Brodzky

THE FERRY AT IRKUTSK, ON THE RIVER ANGARA, CHIEF OUTLET OF LAKE BAIKAL

In winter traffic is carried over the ice; in summer there is a pontoon-bridge (see illustration on opposite page). When the ice is breaking up and before the pontoon-bridge is swung into position, this ferry-boat is used.

A day and a night from Barnaul brought us late in the evening to Biisk, a place of some importance, to which all the butter coming from the vast pastures which lie all round is brought, and to which timber from the vast mountain forests beyond is floated down the river Biya, which, joined a few miles lower down by the river Katun, issuing from the Altai, forms the Obi. It lies at the edge of the steppe, here rising nearly two hundred feet above the stream, and is a brisk, thriving place, with a good many people of the middle class, traders and government officials.

Through one of the latter (whose tardy action I ought, perhaps, had I better known the "manner of the god of the land," to have accelerated in the proper Russian fashion) I managed to engage a tarantass, the only kind of vehicle for travel that is suited by its structure for the country it has to traverse. It seats four persons (two behind and one beside the driver), has four low wheels, and short poles supporting the low frame, which play, however inadequately, the part of springs in reducing the jolts and shocks of the rough cart tracks, full of stones and holes, which are here called roads. Beside the two horses, a third, running outside, is usually harnessed.

Our party included an interpreter and a police sergeant, told off to accompany us, not for protection, since the region is perfectly safe, but rather to insure our getting horses at the post stations on the way into Mongolia. We set off on Au-

XUM

Photograph by Maynard Owen Williams

THE PONTOON-BRIDGE AT IRKUTSK BEING PUT INTO PLACE IN SPRING (SEE ALSO ILLUSTRATION ON OPPOSITE PAGE)

The history of Irkutsk goes back to 1652, when winter quarters were established here by the Russians for the collection of fur taxes from the Buriats (see illustration, page 494).

gust 18, crossing the broad stream of the Biya in a large ferry-boat.

FLOORS OF POST STATIONS BETTER THAN THEIR BEDS

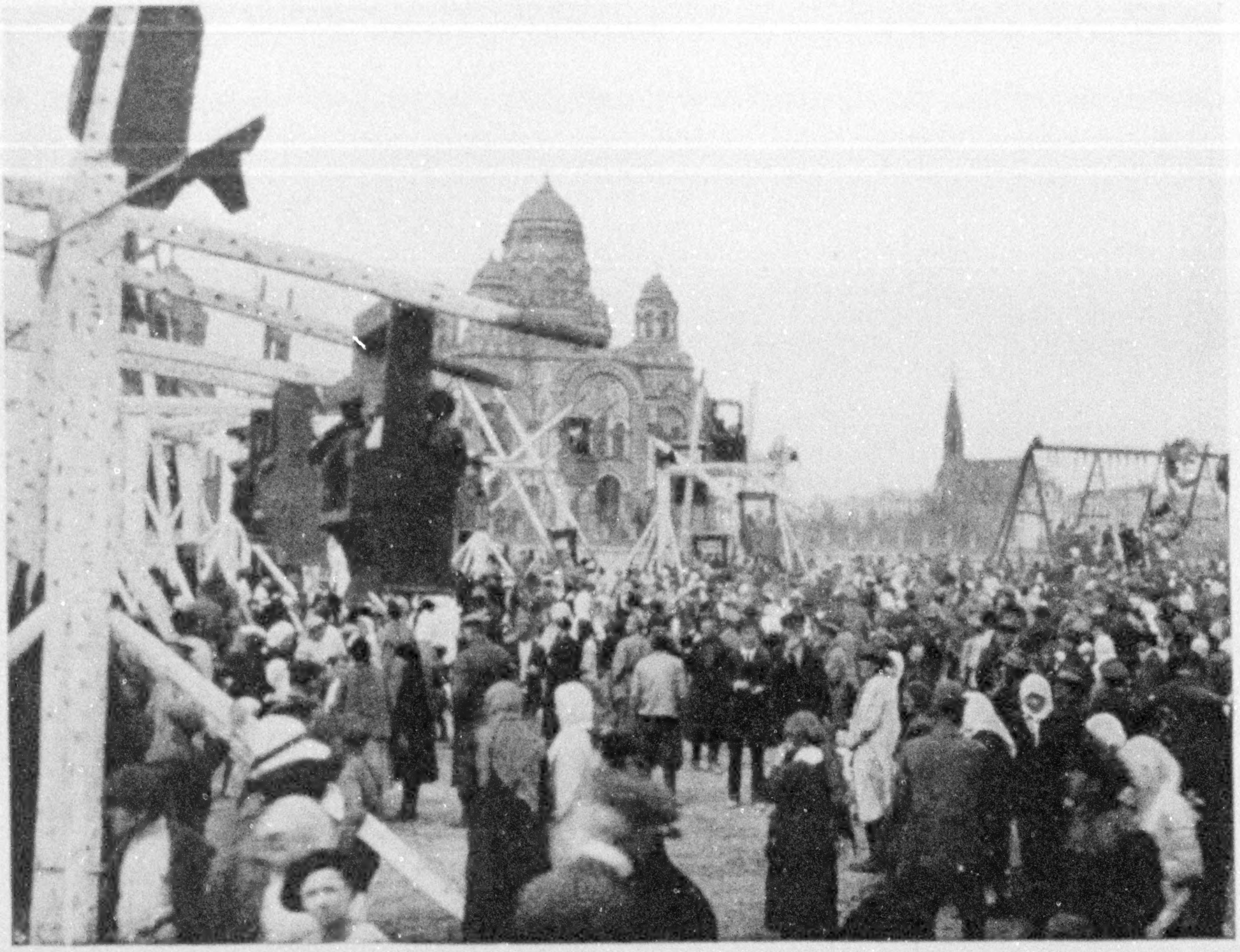
Each post station, which is bound to provide horses for travelers presenting a "Crown Podoroshna," has one or two small rooms reserved for the use of officials and called the Zemstvo Quartier; and passably furnished. There are usually two beds, but into these we never ventured, preferring to sleep on the light mattresses which, according to custom, we carried with us and laid on the floor. After a long day's jolting in the open air one can sleep on the hardest floor.

The people were always civil, and gave us what food they had, black bread, usually butter also, which was always good, and sometimes eggs, but vegetables were never, and meat scarcely ever obtainable. We had brought a tin of biscuits, with a little tea (needless, because it is the beverage of the country) and preserved meat and desiccated soup, the latter always to be recommended whenever hot water can be had.

We started every morning as soon as the horses could be got, and never reached the night's halting place till after dark, yet could seldom cover twenty-five miles a day, for the tarantass cannot, along such tracks, on an average, and allowing for the changing of horses, accomplish more than three or four miles an hour, and we might just as well, and with more pleasure, have journeyed on foot, but for the frequent swamps and occasional downpours of rain. Twenty-five miles is an easy day's walking in exhilarating mountain air, if one has no knapsack to carry.

A LAND OF MARVELOUS FLORAL BEAUTY

The first day's journey was over the rolling grassy steppe; the second brought us into soft valleys between the lower hills, valleys filled with flowers of many brilliant hues, such as one might find on the lower slopes of the Alps in July, for here the snow does not melt away till



Photograph by Maynard Owen Williams

EASTER MERRYMAKING IN THE GREAT SQUARE AT IRKUTSK

Irkutsk is the principal city of Siberia, 3,792 miles by rail east of Petrograd. It is the capital of the government of Irkutsk, which has an area 20,000 square miles greater than that of Texas. The building in the background is the Cathedral of the Virgin of Kazan.

May. They were mostly of west European genera, some of them British species—blue larkspur, columbines, and (if I remember right) the blue Jacob's ladder (*Polemonium*), purple and yellow aconites, campanulas, gentians, and the white grass of Parnassus (a plant widely scattered over the world), the tall pink willow herb, and, in great profusion, one of the most ornamental among British wild flowers, the purplish blue geranium (*Geranium pratense*). Such a wealth of color I have seldom seen.

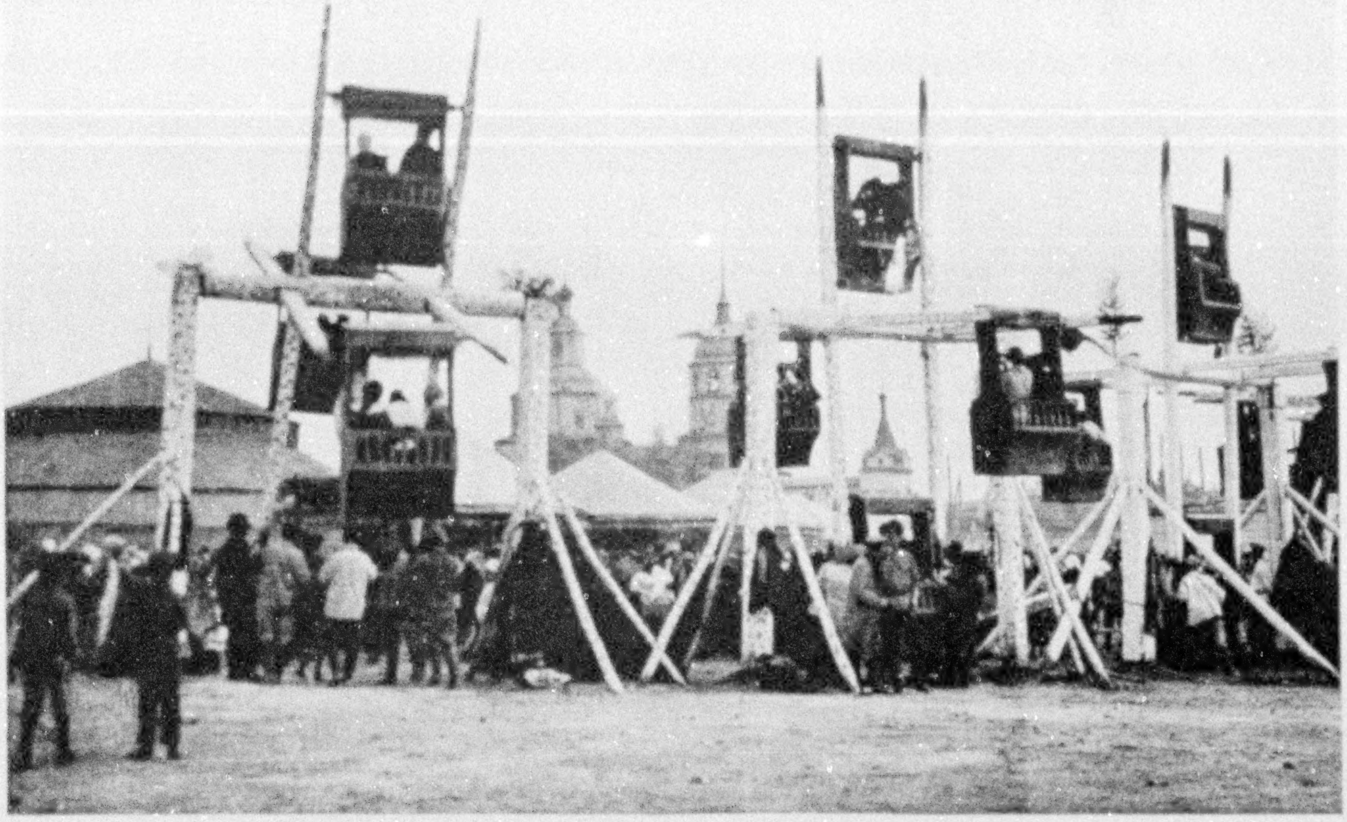
On the third day we reached a charming hollow surrounded by cliffs, whose sheltered situation and pure air have occasionally drawn to it a few visitors threatened with tubercular disease. It would be an excellent spot for a sanatorium if the track were rendered passable for invalids and if there were an inn.

Not far off a Russian landscape painter had made a studio for himself in a hut. He was absent, and as it stood open, we saw the studies of Altaian scenery, which were decidedly clever, though rather hard in color. These were the only signs that met us during the journey to indicate that any one ever comes here from the plains except on official business or for the slender trade in Mongolian wool.

It was a singularly beautiful valley, bold rocks rising out of the forest and the splendidly bright torrent of the Katun sweeping down through pastures gemmed with Alpine flowers.

Desiring only to convey a general impression of the region, I will not attempt to describe the course of our wanderings, nor the difficulties encountered on rocky tracks and along the crumbling edges of deep ravines, nor in plunging through swamps where stones hidden in the mud sometimes all but capsized the luckless vehicle into the water.

Worse still were the risks we ran of being overset in the mire of the track



Photograph by Maynard Owen Williams

FERRIS WHEELS IN IRKUTSK DURING EASTER WEEK

In pre-Bolshevik days Irkutsk was the home of the Siberian branch of the Imperial Russian Geographical Society.

where it led into and through the villages, for here all the space between the houses was a bottomless sea of black farmyard filth, immersion in which would have left the traveler's clothes "a thing to dream of, not to tell."

ALTAI'S LOFTIEST PEAKS ARE AS HIGH AS THE MATTERHORN

All these and many other drawbacks to an Altaian journey are outweighed by the views one gets from the heights, as well as by the wild charm of the woods and the sparkling torrents that foam down the glens. In particular there dwells in my memory one panoramic prospect obtained from the summit of a mountain above the Semenski Pass, a little over three thousand feet high. From it we looked out over an immense stretch of rugged ridges and bare peaks rising one behind another to where in the far southeast snowy summits shone in the sunlight.

The two Belukha peaks (14,900 feet), believed to be the loftiest points in the Altai (about the height of the Matterhorn), were hidden by nearer heights. They are the center of a mass of glaciers, and round them the grandest crags and gorges are to be found.

Those gentler landscapes which we did see were always picturesque and sometimes charming, but not comparable in beauty to the finer parts of the Italian Alps or Pyrenees, or to the valleys of the Sierra Nevada of California, or to the majestic summits of the Caucasus.

Indeed, the Altaian scenery never reminded me of the Alps. It is more like that of the Canadian Rockies, or even perhaps the most secluded glens of the Scottish Highlands, though in the latter everything is, of course, on a much smaller scale.

What one found peculiarly impressive in the Altai was the sense it gave of an untouched primeval wilderness, remoteness and immensity. The very breezes, whistling or moaning through the trees, sound like

> ". . . . a wind that shrills
> All night in a waste land where no man comes,
> Or hath come, since the making of this world."

Civilization seems infinitely far away, for one is in regions where few signs

Photograph by Graham Romeyn Taylor

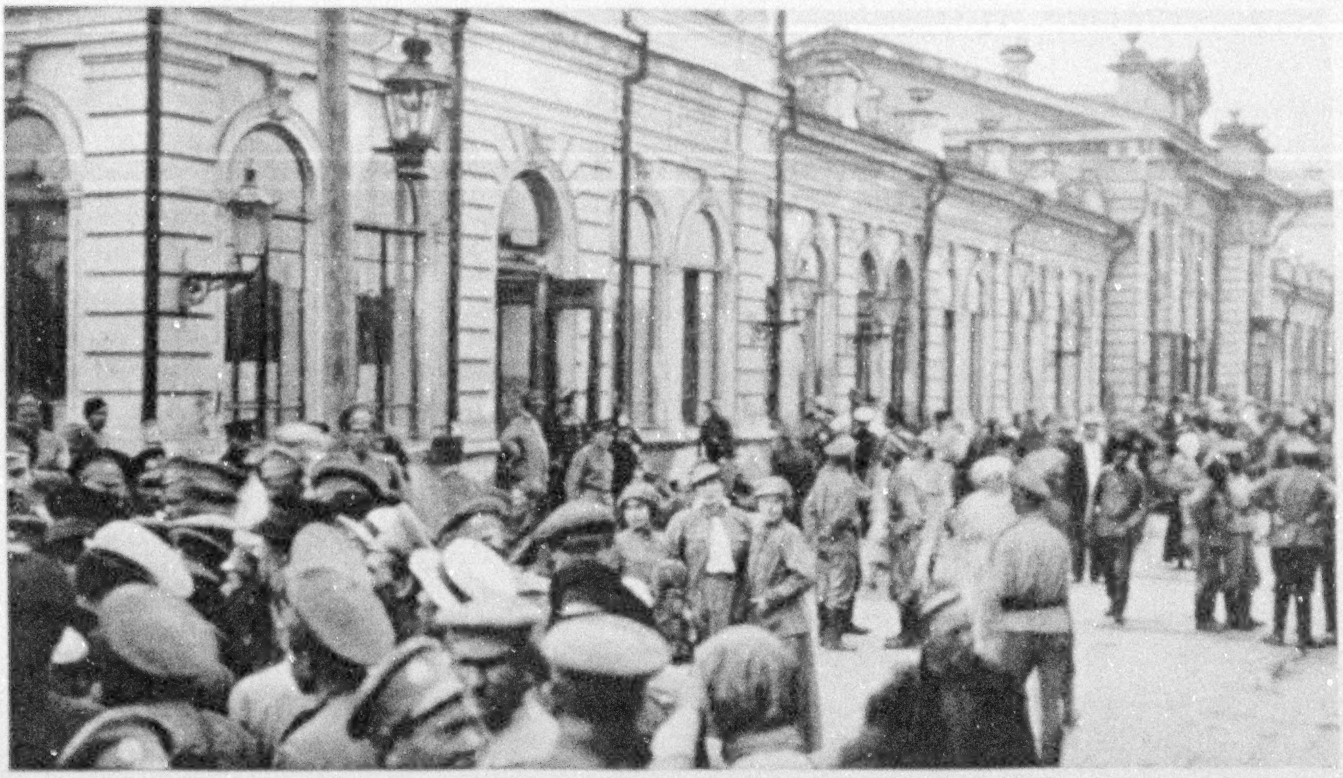
PEASANT CHILDREN IN A WESTERN SIBERIAN VILLAGE

Photograph from Horace Brodzky

VOLUNTEERS FOR THE WHITE GUARD CAVALRY AT IRKUTSK

"The communist doctrines of the Bolsheviks find no support in Siberia except among the few town workers" (see text, page 499).

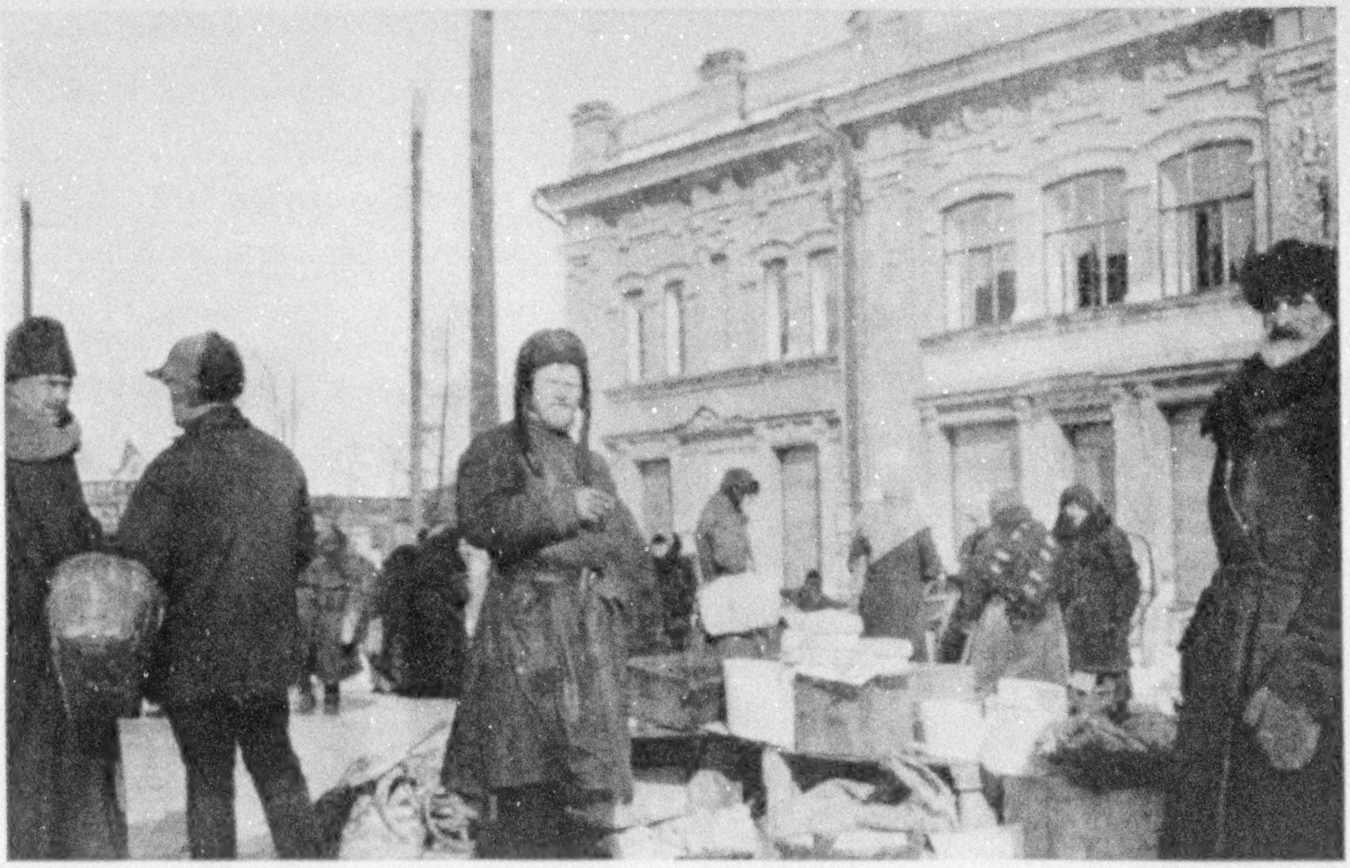
XUM



Photograph by C. S. Stilwell

ITS HANDSOME RAILWAY STATION IS ONE REASON WHY IRKUTSK IS CALLED THE PARIS OF SIBERIA

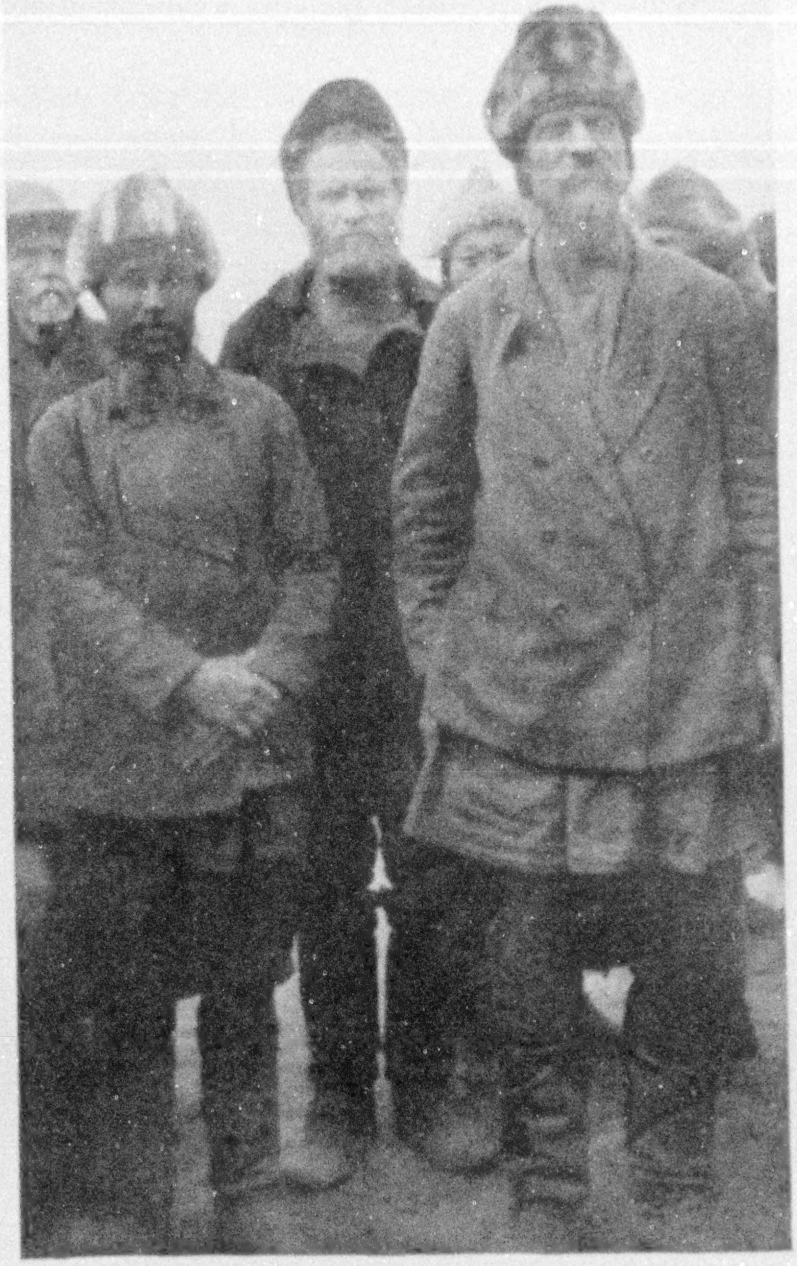
"Nothing forbids the hope that the natural action of economic forces will, perhaps within a few years, install some sort of settled government in Siberia, able to enforce order and to permit men to resume their daily work in a normal way" (see text, page 507).



Photograph by Hugh A. Moran

THE IRKUTSK MARKET PLACE

Before the World War 100,000 industrious Russian peasants immigrated to Siberia annually. This is destined to become one of the great food-producing countries of the world.



Photograph by Hugh A. Moran

PEASANTS IN THE REGION OF FORMER PENAL COLONIES IN THE LAKE BAIKAL DISTRICT, SIBERIA

meet the eye to show that man has cared to dwell, or will ever care to dwell, in this wilderness, save to fell the woods and hunt the wild creatures that shelter therein. It is a land not to be thought of in terms of time and space, for in it nothing has ever happened to measure time by, and in space it exists only as the gathering place of the waters that feed the great rivers, as yet receiving nothing from without and as yet producing hardly anything to send elsewhere.

THE KALMUKS DWELL IN CONICAL HUTS MADE OF BARK

From a station on the route into Mongolia we were forced to turn back, for the tarantass, which had been frequently repaired, was pronounced unfit to carry us any farther along a track described as worse than that we had traveled; so it was evidently impossible to reach the central snows of Belukha.

Taking a more westerly track on the return journey, we passed between bare, bold mountains over several high table-lands, in some of which we met nomad Kirghiz, with their herds; in others Kalmuks, dwelling in round conical huts of bark, not unlike the Indian wigwams. The former were Mussulmans of Turkic stock, the latter Buddhist Mongols, but in both there remains much of the old Shamanist spirit worship, which prevailed over all northern and central Asia before the spread from Arabia and from India of the two great religions aforesaid.

The people are wild and unkempt, many of them wearing sheepskins or bearskins, but they are peaceable in aspect and with good, simple faces, not wanting in intelligence. Round the Kalmuk huts birch poles are fixed, from which flutter strips of white linen, apparently meant to ward off evil spirits.

Both races live off their sheep, cattle, and horses, drinking the milk of all three, but loving best the *koumiss*, made of mare's milk, which, when fermented, becomes intoxicating. Sometimes they cultivate a little patch of ground.

KALMUKS AND KIRGHIZ NEVER WALK

A Kalmuk or a Kirghiz never walks; like an Icelander, he jumps on his wiry little horse to go a hundred yards.

On these high plains we saw swarms of little burrowing creatures called tarbaghans, resembling the marmot of the Alps, scurrying to their holes as our vehicle approached, and at a spot where the ground was covered with the Alpine edelweiss (*Gnaphalium leontopodium*) for fully a square mile, we saw a long train of camels stalking over the pasture, a strange juxtaposition of the plant that in

Europe grows beside the glaciers with the denizen of the Arabian desert.

Once we came suddenly on a huge eagle, bigger than the sea eagle of North America or the golden eagle of Europe, sitting on a low rock surrounded by a parliament of crows. He rose very slowly a our approach and sailed deliberately away while the parliament dispersed. He may possibly have been a lammergeier, but did not seem to me quite the same as that splendid bird, which I once saw circling over my head on the top of a peak in the Engadine.

Of hawks and falcons there were plenty, as there are of wolves, bears, and lynxes; but the tiger, though he can stand cold—for he is sometimes seen on the shores of Lake Baikal, and puts on a thick coat of fur in northern Korea—does not in this region come farther north than the marshes of Lake Balkash, some hundreds of miles to the southwest.

Photograph by D. A. Foster

ALONG THE BAIKAL MOUNTAIN SECTION OF THE TRANS-SIBERIAN RAILWAY

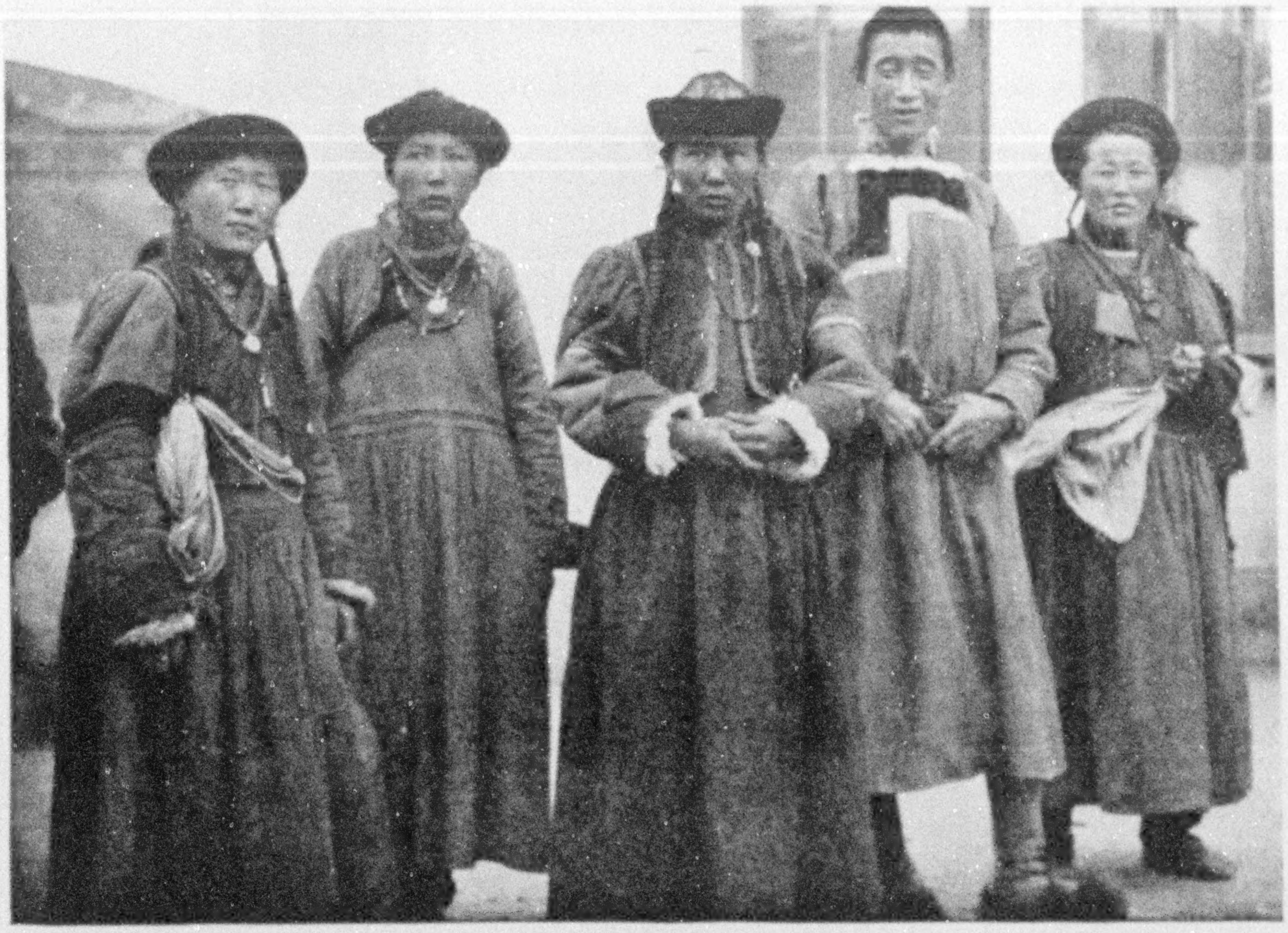
"The line runs for many miles on a shelf cut out of the steep mountain side, with frequent tunnels through projecting cliffs" (see text, page 473).

A few days more through picturesque rocky valleys brought us down to the foothills, and thence over the steppe to the town of Biisk, whence we had started. There, after a farewell view of the mountains from the high bank above the river Biya, we embarked on a steamer even smaller than that which had carried us up.

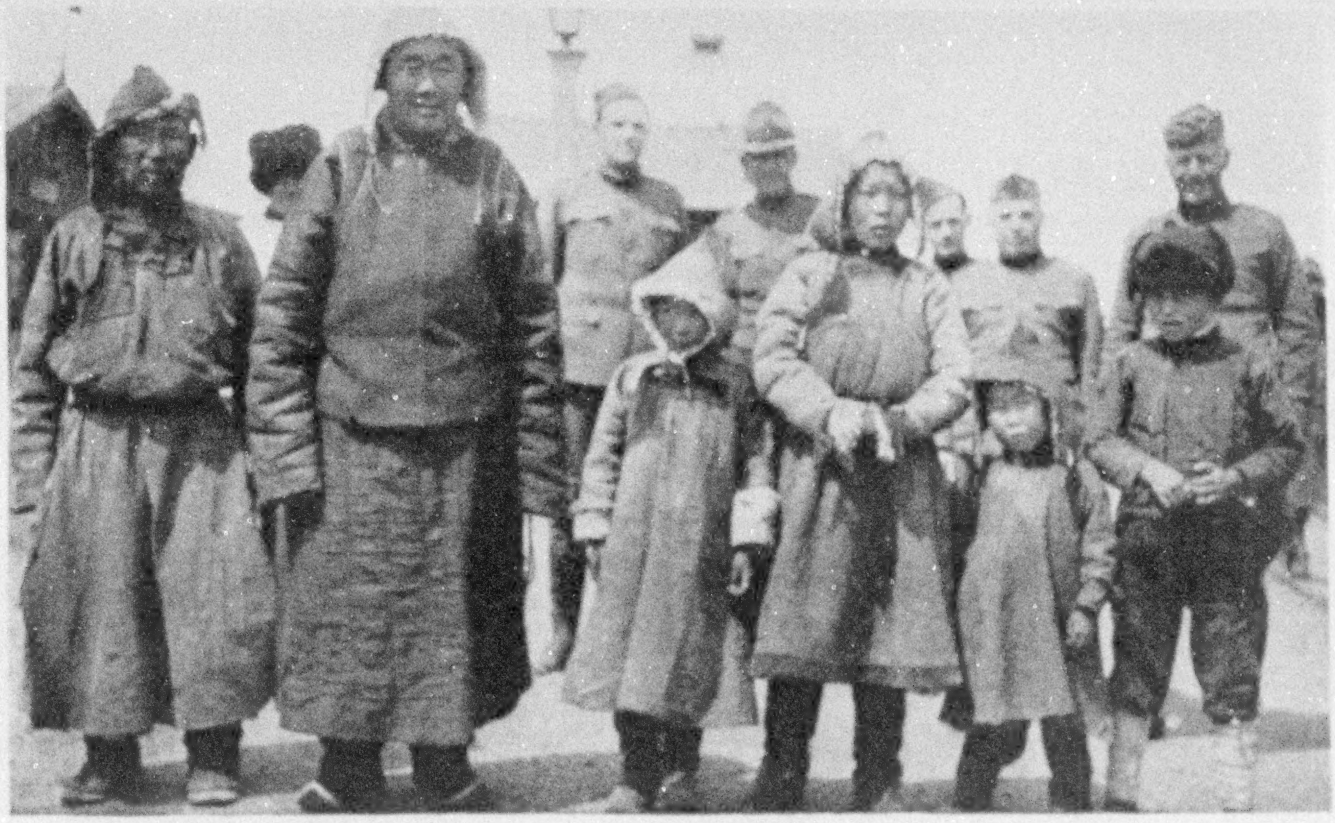
Having now the current of the river to speed our downward course, we came in three days, making a long halt at Barnaul, a dreary place in the dreary hours of rain we had to spend there, back to Novo Nikolaevsk, where we were hospitably entertained by the representatives of the great American firm which supplies agricultural machinery to half the Russian world.

THE ALTAI MOUNTAINS AS A POSSIBLE PLAYGROUND OF ASIA

Here we rejoined the railway; here we boarded the train which was to carry us to Omsk and through the Urals to Moscow and Petersburg (Petrograd), and Königsburg, ancient capital of the Teutonic Knights; and so on to Berlin, where, ten months before the fatal days of July, 1914, we were told (and, as I



A BURIAT MAN AND FOUR WOMEN ASSOCIATES



Photographs by D. A. Foster

A GROUP OF BURIATS NEAR CHITA, EASTERN SIBERIA

The Buriats are a broad-shouldered, stalwart people of nomadic tendencies. They are noted for their devotion to their horses, and when a Buriat chief dies his steed is tied to a stake at his grave, there to die by starvation; but the thrifty heirs usually confine the horse by slender cords in order that it may break away. Note the members of the American Expeditionary Force to Siberia in the background.

XUM

believe, honestly told) by a high official of the Foreign Office, that the diplomatic relations between Germany and England had been steadily improving.

Whether the Altai will ever become the mountain playground of Asia, as Leslie Stephen called the Alps the playground of Europe, may be doubted, for the Altaian landscapes, varied and charming as they are, and sternly grand as is the high glacier region, have not the more exquisite charm and the more inexhaustible variety of the Swiss and Italian Alps. But they and the lofty ridges that continue the great line of elevation as far as the river Amur are the only Asiatic ranges in which mountaineering can be enjoyed as we enjoy it in Europe or as Americans enjoy it in the Sierra Nevada and Rocky Mountains.

The Himalayas are incomparably grander, but there the summers are wet and intensely hot, and both the heights and the valleys are on a scale too vast for average human powers. To cross one single gorge like that of the Teesta below Darjeeling, descending 7,000 feet, and mounting another 7,000 to the opposite edge, is work enough for a long day under an Indian sun.

Nevertheless, less interesting as are the Altai, there will some day be much delightful exploration; and some fine climbing will be done in the thousand miles of lofty Siberian mountains, east of the 85th meridian of east longitude. Doubtless, American and Canadian, as well as British climbers, will be found to do it.

Hunters, also, will come, and for a time at least they will find a fair number of wild creatures to destroy—deer, though scarce any elk, as well as wolves and bears and lynxes, and the ibex that haunts the high crags, and in some spots on the Mongolian side of the range, the rare mountain sheep (*Ovis ammon*) with the great curved horns, a creature which, it is to be hoped, they will not be allowed to extirpate.

Though disappointed, owing to the difficulty of making the preparations requisite, at not having been able to make an effective reconnaissance of the approaches to the great peaks, we returned to civilization—half famished, indeed, but sound in health—with the satisfaction of having seen new and most interesting aspects of nature and having caught glimpses of the life of ancient nomad races.

From Siberia we carried back the recollection of a land of large, free, breezy, sunlit spaces, beautiful in summer, with a glorious abundance of flowers, and the impression of a people more cheerful and prosperous than we had expected to find in a country hitherto associated with the cruelties of a tyrannical government and the sorrows of lifelong exile.

THE ECONOMIC FUTURE OF SIBERIA

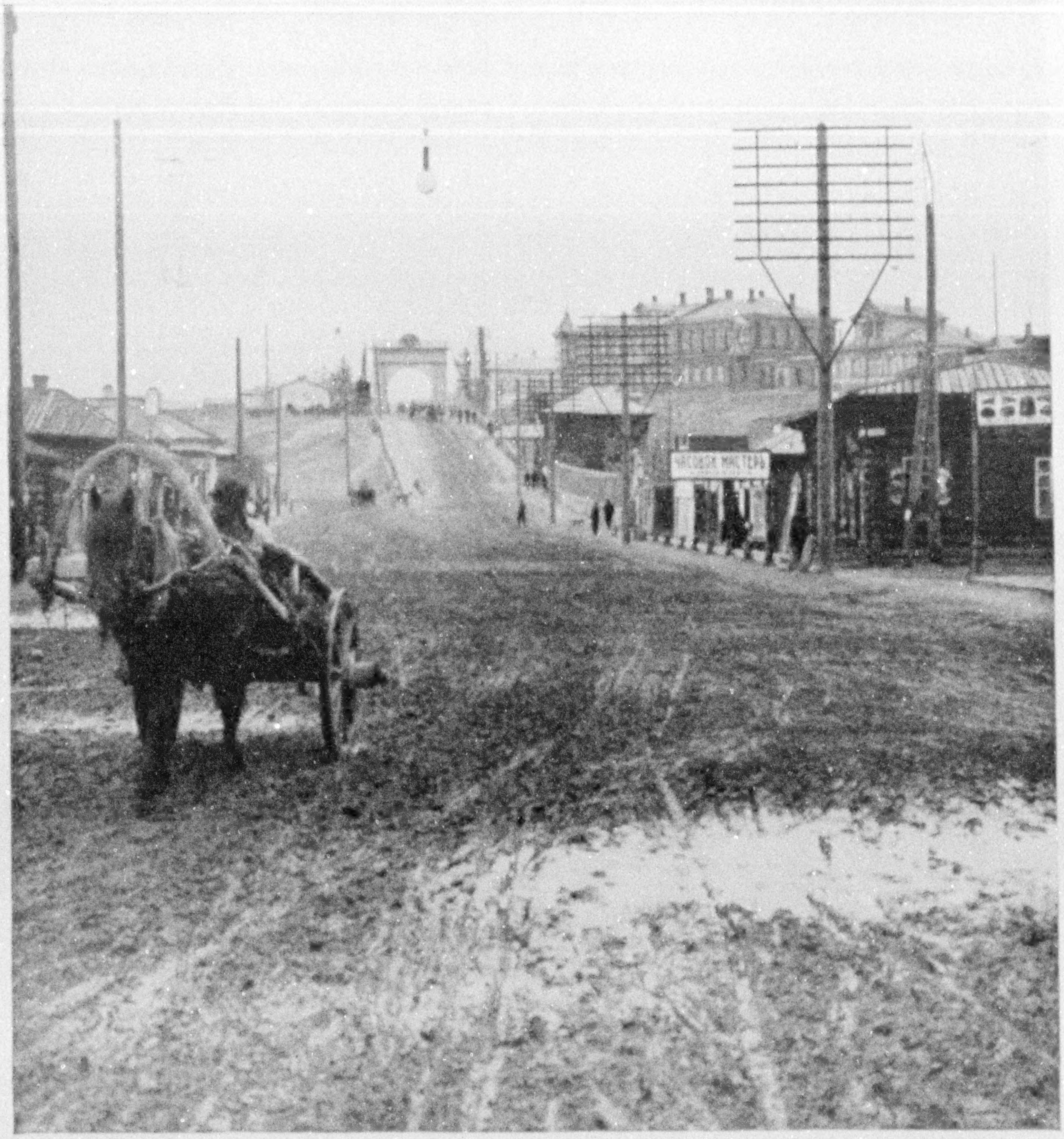
Something must now be said of the economic future of Siberia, a subject that will become of high significance to the world, for the country contains the one hitherto imperfectly developed region in the temperate zones that has the greatest possibilities of future development for the production of food.

Omitting the districts in eastern Siberia, comparatively small districts, that are fit for agriculture, and omitting, also, the larger and more fertile regions along the river Amur, which Russia acquired seventy years ago, there are between the Urals and the river Yenisei thousands of square miles available either for pasture or for cultivation.

Into this region there had been flowing, mostly from central Russia, a steady stream, averaging 100,000 per annum, of industrious peasants, to whom the government gave farms. Though there were some large estates, Siberia has been, broadly speaking, a land of occupying farmers, very ignorant and living very rudely, but intelligent and laborious.

The cultivated area was being steadily extended, and beyond it, especially along the Obi and the middle course of the Irtish, the rich pastures were supporting an increasing number of cattle, so that an immense trade in butter had sprung up. Most of it was bought by Danish merchants and dispatched in refrigerating cars to western Europe, to be there sold as Danish butter.

Thus, in 1913, the country was thriving, with every prospect of a rapid growth in wealth and population. There were few manufacturing industries, but the minerals hidden in the long mountain



© Underwood & Underwood

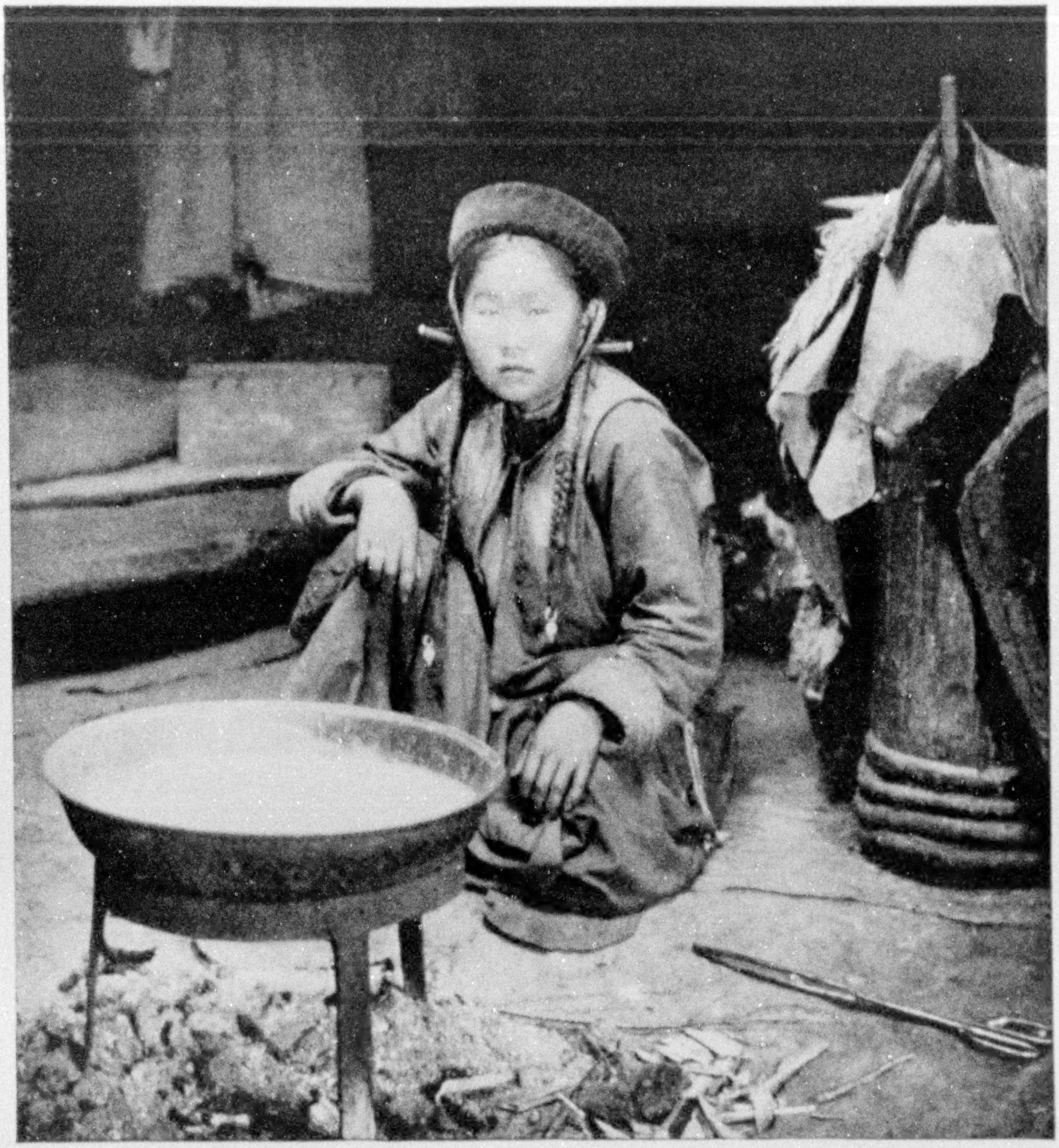
A STREET SCENE IN VERKHNE-UDINSK, 300 MILES EAST OF IRKUTSK

This prettily situated town is the headquarters of the Western Trans-Baikal mining administration. It is the junction point of the two great highways of northern Asia. Southward stretches the road to Kyakhta, to Urga (the capital of Mongolia), and to Peking.

range that divides Siberia from Mongolia are believed to be of immense value. That they had not been better ascertained and exploited, and that all the resources of the country had not been more swiftly developed, was attributed to the incompetence and, above all, to the corruption of the imperial administration—a deeply rooted evil, which neither well-meaning emperors nor an energetic minister, if one now and then appeared, had been able to cure.

Had Siberia been in the hands of Americans or Canadians from 1870 to 1910, its revenues and population would have been double what they were in the latter year, for the internal river communications would have been improved and the railway tracks into European Russia would have been duplicated or triplicated.

In 1913 men were discussing one expedient for increasing the trade of the country which a more enterprising government would have done its best to



© Underwood & Underwood

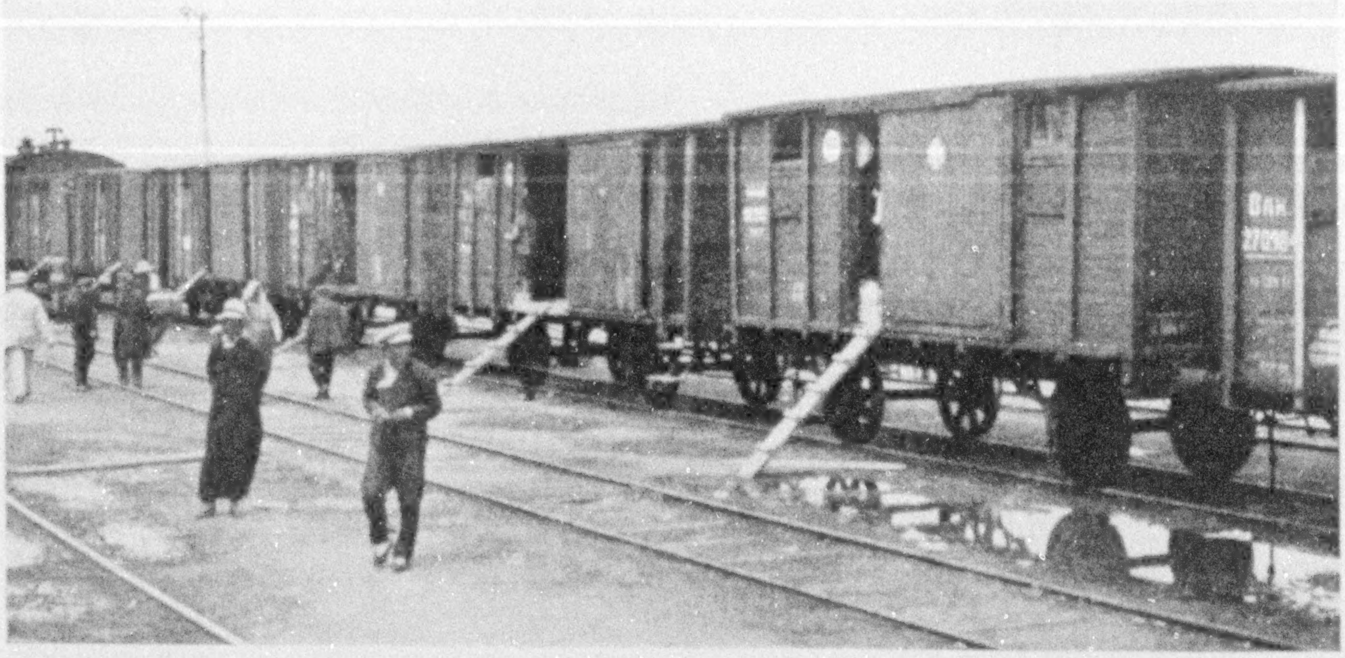
A TUNGUSIAN GIRL OF EASTERN SIBERIA

The Tunguses are at home throughout central and eastern Siberia, from the Yenisei River to the Pacific. Broad, flat features, with small nose, thin lips, and dark, oblique eyes, are characteristic of this Mongol-Tatar people. They are a cheerful, brave, self-reliant, modest, and hospitable race of hunters, making their home chiefly in the midst of dense forests.

favor. The greatest want of Siberia is cheaper transportation for its heavy products to European markets, especially to those of Germany, France, and England, and that which most reduces the value of its great rivers as freight carriers is the fact that their mouths in the Arctic Ocean are difficult of approach, even in summer, because vessels may get caught in the Kara Sea east of Novaya Zemlya, and even if they reach the Gulf of Ob (Obi), may be unable to return with the cargoes they have loaded.

The employment of wireless telegraphy may be expected to immensely reduce this risk, for by means of it approaching or departing ships could be kept informed from various points regarding those parts of the sea which may be open—and there are always such parts in July and August—and their course could be directed accordingly.

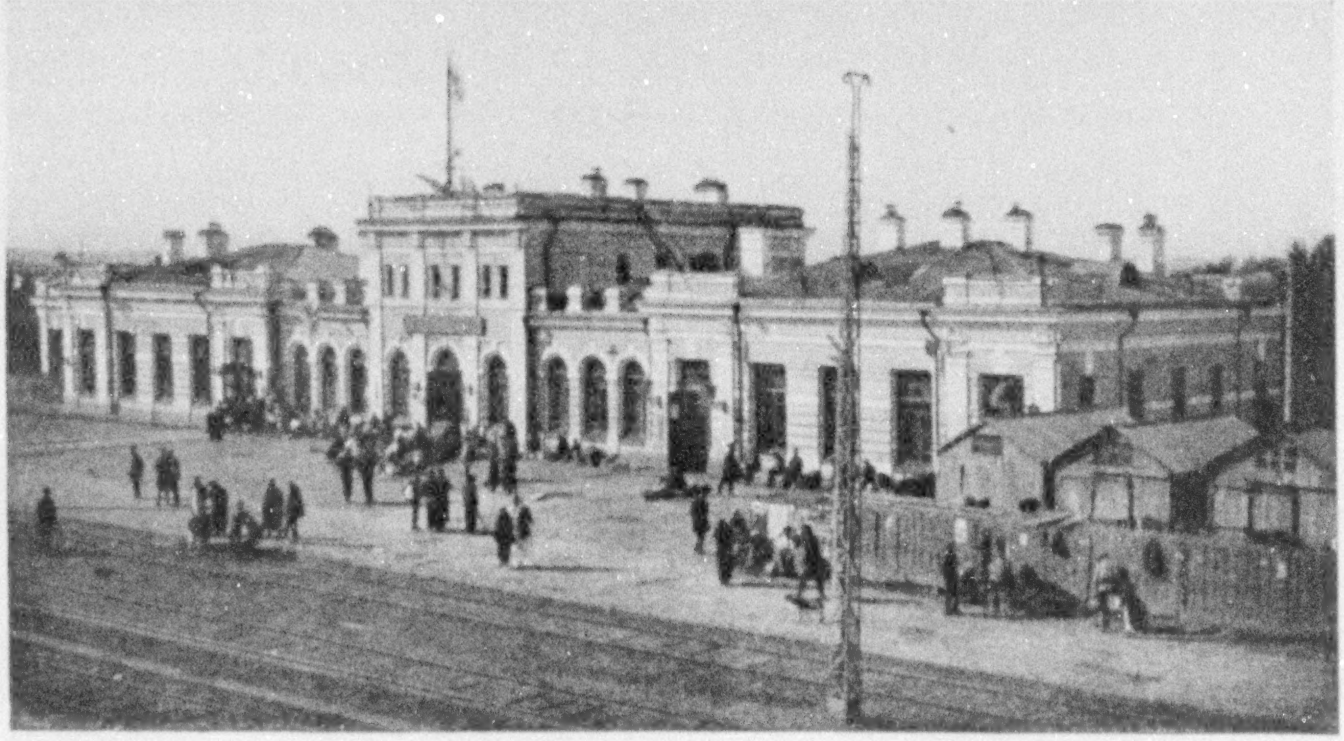
XUM



Photograph by C. S. Stilwell

A TRANS-SIBERIAN TRAIN DE LUXE IN WAR TIME: NOTE THE MEANS OF INGRESS TO THE BOX-CARS

The total length of the Trans-Siberian Railway with its branches is more than 5,400 miles, including the more than 1,000 miles in Chinese territory. It was begun in 1891 and virtually completed by 1902, the total cost being estimated at more than $435,000,000. It is the one great factor in the social and economic life of the country which those who wish to understand Siberia must keep always in mind.

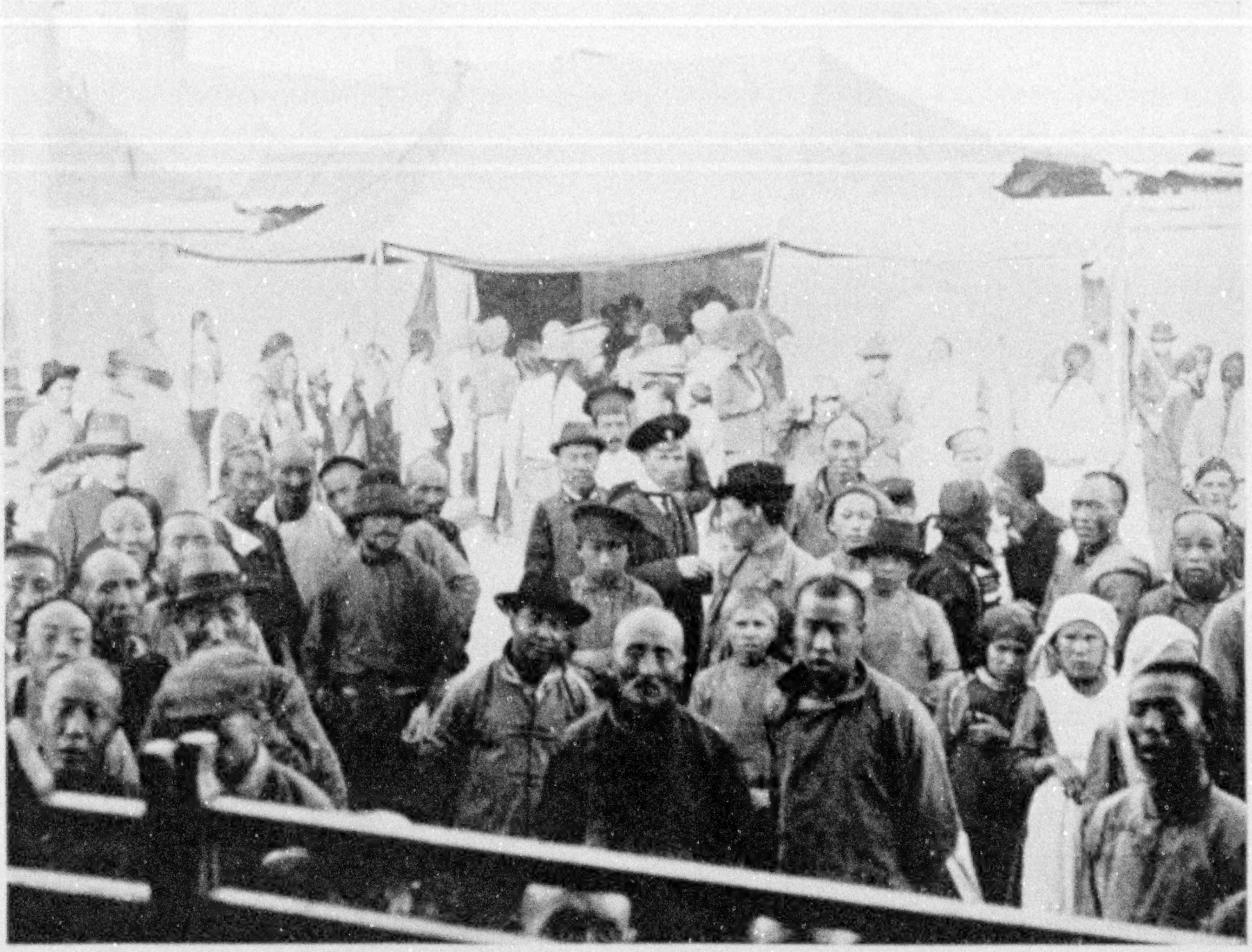


Photograph by D. A. Foster

THE CHINESE EASTERN RAILWAY STATION AT NIKOLSK USSURIISKII

Nikolsk Ussuriiskii is a town of 50,000 inhabitants, sixty miles northwest of Vladivostok. In peace times it was a popular resort for sportsmen seeking musk-deer and wild boar.

XUM



Photograph from Horace Brodzky

A CROWD IN FRONT OF AN OPEN-AIR THEATER AT A CHINESE FAIR IN KYAKHTA, SIBERIA

The crowd contains Chinese, Mongolians, Russians, Tatars, Buriats, and a few Europeans. There is no scenery at these shows. The "announcer" tells the spectators what scene they must imagine. The costumes of the actors, however, are very beautiful, elaborate, and costly.

As far back as the days of the Tsar Ivan the Terrible and the English Queen Elizabeth, a bold English captain tried this route with success, and there is reason to believe that nowadays vessels fitted with wireless apparatus could make pretty sure of safe voyages to and fro.

NOT A FERTILE FIELD FOR BOLSHEVIK DOCTRINES

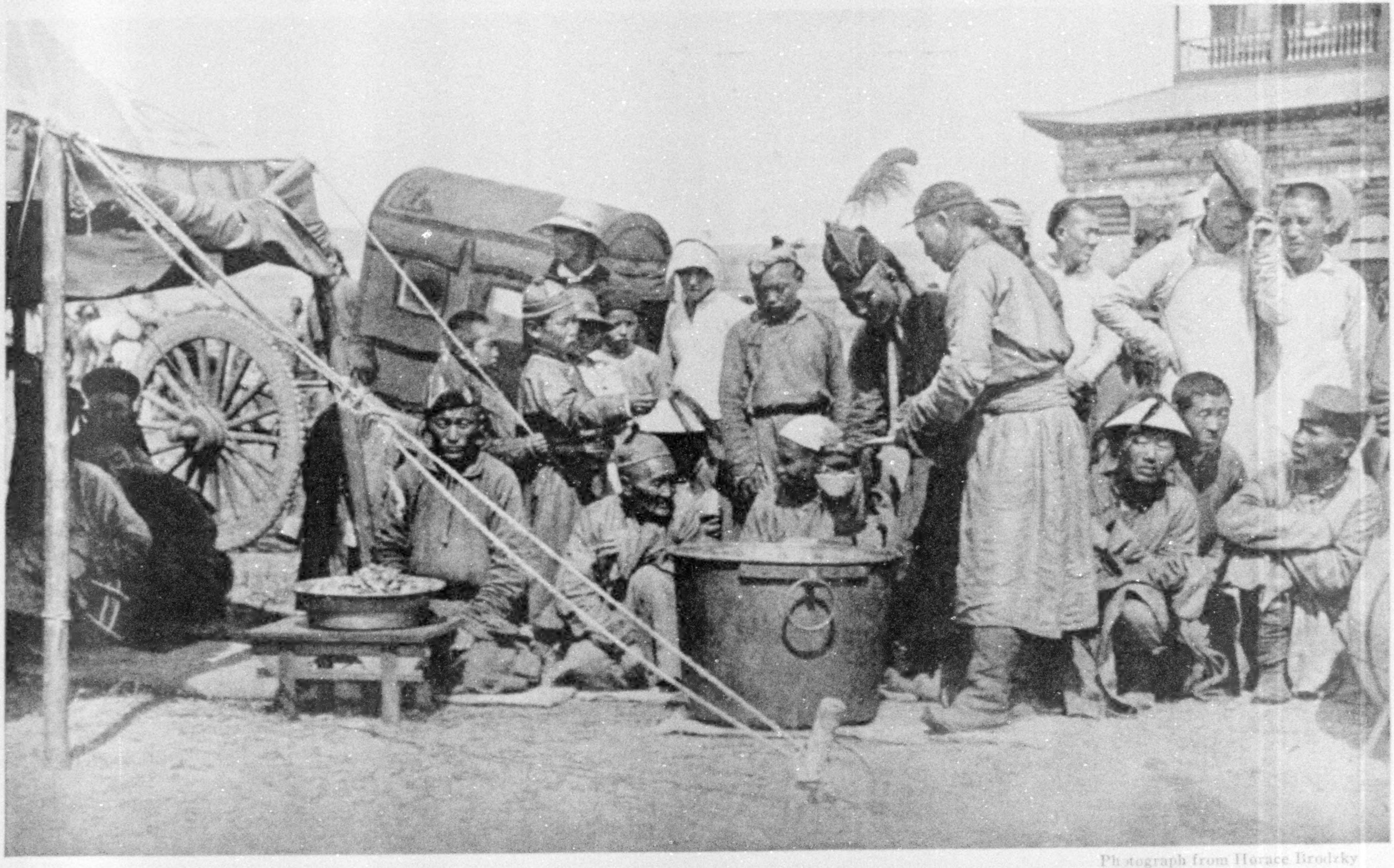
The economic progress I saw in 1913 was arrested by the war which broke out in Europe just a year later; and in 1917 there was fighting in Siberia itself between the Bolsheviks, who had then seized power in European Russia, and their opponents, who were organized for a time under Admiral Kolchak.* The Bolsheviks prevailed, not because the Siberian peasants adopted communist doctrines, for those doctrines find no support in Siberia except among the few town workers, but because the men who surrounded the unfortunate and entirely well-meaning Kolchak made themselves detested; so that his forces, at first successful, ultimately melted away before the Bolshevik advance with very little resistance.

What is happening in Siberia as I write these lines, in January, 1921, few people in western Europe know, and I am not one of them, but evidently the economic conditions must have gone sadly back since 1913. When will progress be resumed? When will the setting up of a stable and tolerably enlightened government make progress possible?

No sensible man will venture to prophesy about Russia; but one thing at least may be said: In the long run, eco-

---

* See "Glimpses of Siberia, Russia's Wild East," in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1920.

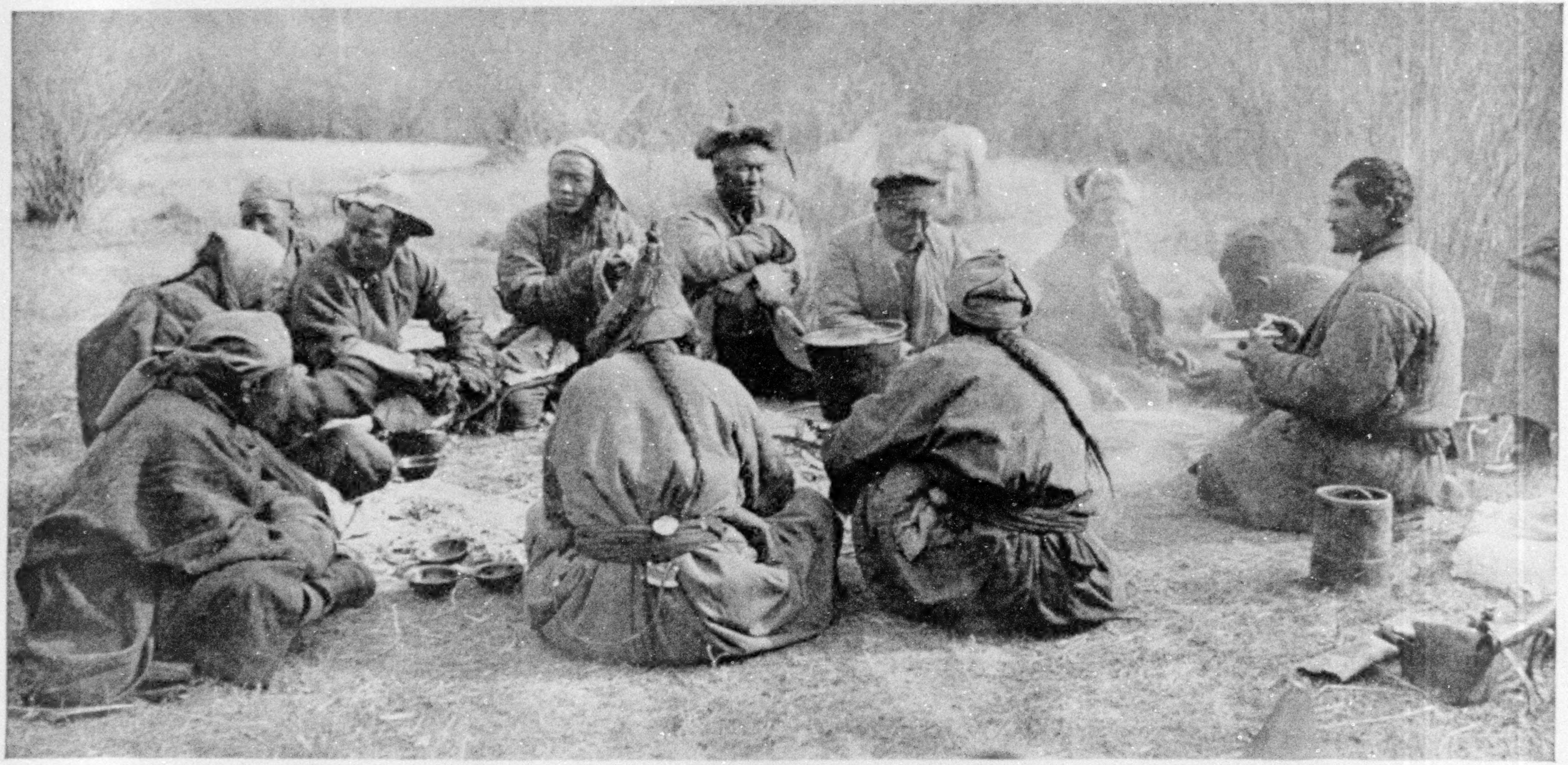


Photograph from Horace Brodzky

THE "HOT-DOG MAN" AT A MONGOLIAN FAIR, AT KYAKHTA, ON THE SIBERIAN-CHINESE BORDER

Note the oddly notched rim of the cart-wheel in the left background—ancestor of our modern non-skid tires. Kyakhta was for many years the great emporium for the caravan trade between Russia and China. The completion of the Suez Canal and the construction of the Trans-Siberian Railway robbed it of its importance. Over the border, on the Chinese side, is the town of Maimatshin.

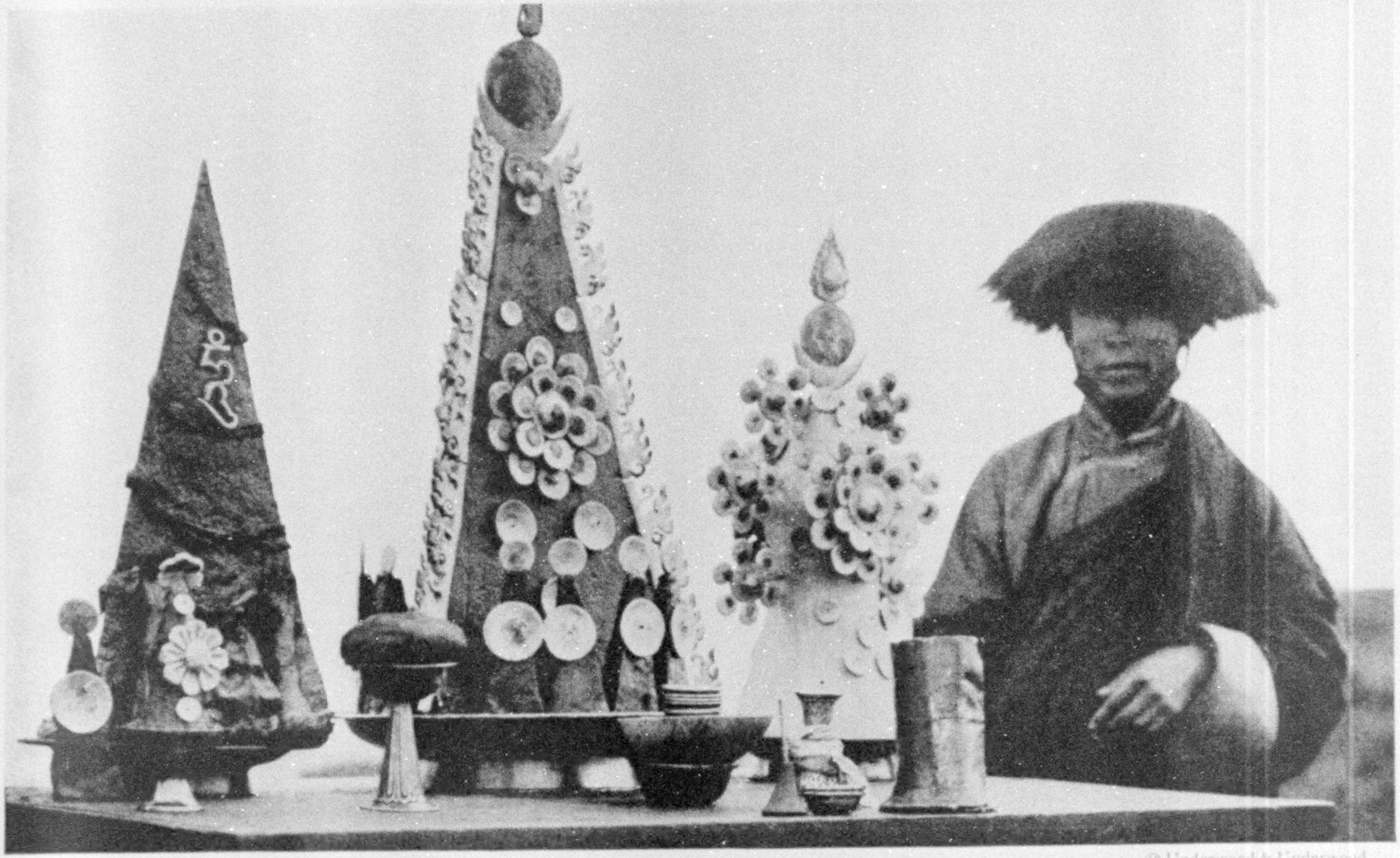
XUM



Photograph from Horace Brodzky

MONGOLIANS AT MEAL-TIME ON THE STEPPES OF SIBERIA

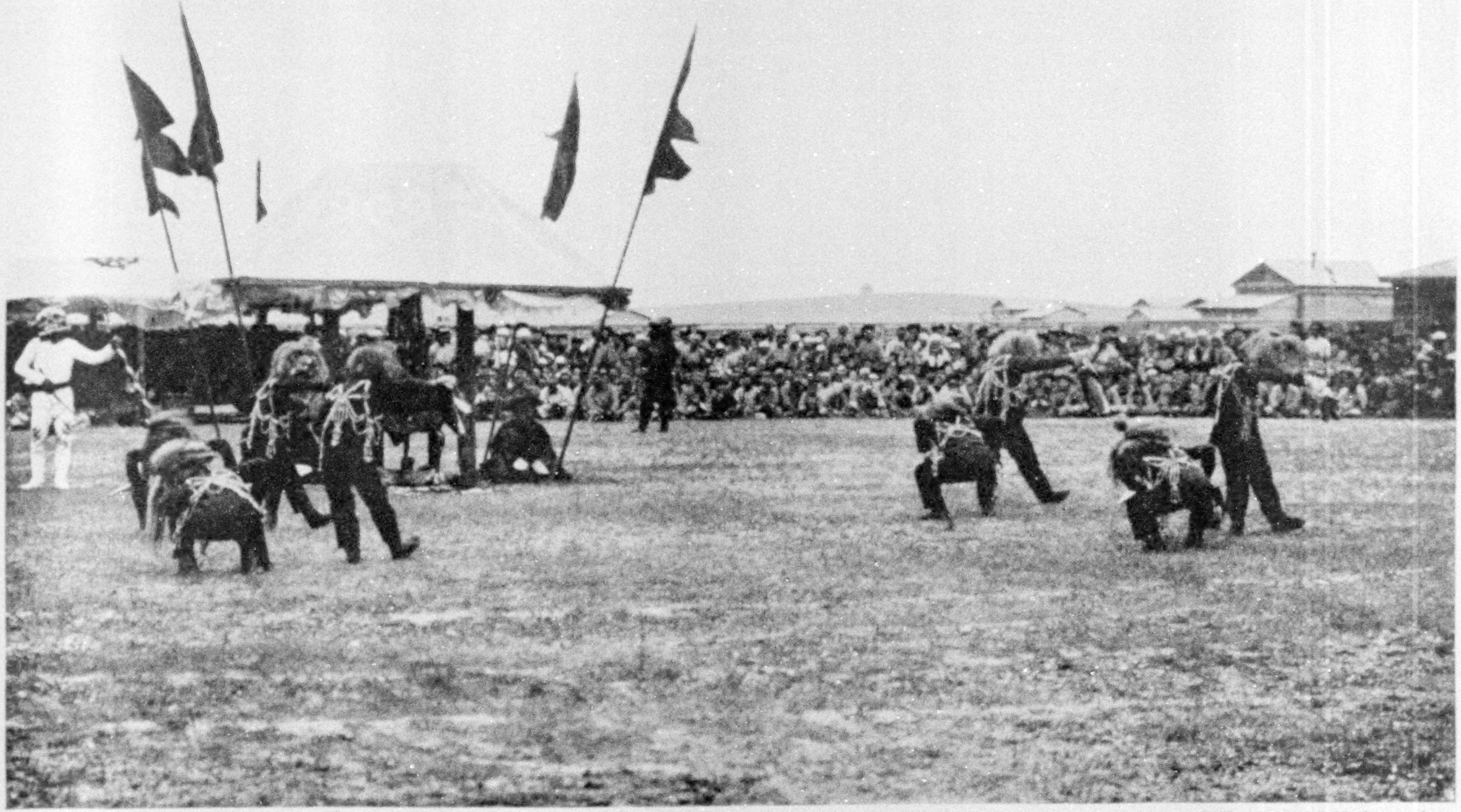
The man on the right is a Russian. The chief item on this menu is boiled meat. A Mongolian never eats bread and seldom vegetables. He drinks the soup from the boiled meat and then lifts out a chunk of flesh, holds one end in his mouth and cuts off a piece with his big knife. A Mongolian eats only once a day, at noon or in the evening, when he consumes from five to ten pounds of mutton or beef. In the winter he carries the meat under his saddle, which keeps it from freezing.



© Underwood & Underwood

SACRED BREAD: SIBERIA

The greatest feast in the Russian year is Easter. Religious ceremonies are held in the churches lasting several hours after midnight and terminating with the curious ceremony of blessing the Easter cakes. Instead of the customary cross, the bread shown in the illustration is capped with the Mohammedan symbols of moon, sun, and flame.



© Underwood & Underwood

A SHAMAN FEAST: SIBERIA

Shamanism is the primitive religion of certain tribes in Siberia, but in most cases practiced under an outward show of newly introduced religions, either Christian, Buddhist, or Mohammedan.

XUM

Photograph by Hugh A. Moran

THE LAST EXPRESS TRAIN TO GO THROUGH FROM VLADIVOSTOK TO PETROGRAD IN FEBRUARY, 1918: BAIKAL, SIBERIA

nomic factors are sure to prevail. They assert themselves, because revolutionary disorders never last very long, since it is the general interest of the vast majority in every people to see a stable administration established; and when some strong man, or group of men, possessing the gift for rule have established it, the self-interest of the rulers prompts them to occupy the energies and promote the well-being of their subjects by extending facilities for trade and industry.

SIBERIA'S HISTORY IS ALMOST A BLANK

A few concluding words may be said as to the future generally. The history of Siberia was almost a blank, and had little interest for the world at large, till 1917. The men of Great Novgorod had occasionally sent trading or raiding bands across the Urals in the eleventh and twelfth centuries, and the first invasion was under a robber chief, named Yermak, who led his followers into the country in 1580. But thereafter the process of conquest and colonization went on unnoticed by Europe, with no serious resistance from the aboriginal inhabitants, who were weak and loosely scattered savage tribes.

Thus there were really no events for historians to record; the process went on gradually and unobserved. The racial character of the Russian immigrants has (except in the Far East) been scarcely affected by any infusion of aboriginal blood, and so far as the Siberian Russians differ from the Russians of Europe, they are nowise inferior.

Serfdom never existed in Siberia. The immigrants were mostly more enterprising than their brethren who stayed at home. The exiles, banished for political offenses, real or alleged, often came from the intellectual élite of Russia, while the descendants of criminal convicts did not permanently stain the population, although some of those who escaped used to range the country as robbers.

Taken as a whole, the Siberians, if not fit to work democratic institutions, are quite as capable of local self-government as are the peasantry of European Russia and just as unlikely to become Communists of the Marxian or any other stripe.

WILL SIBERIA REMAIN A PART OF RUSSIA?

So far as I could learn, the only class in which political discontent or any signs of an interest in politics existed had been the students in the university, who occasionally "demonstrated" or "struck work" when some particularly offensive piece of tyranny proceeded from the university authorities acting at the instance of the ecclesiastic authorities. There have been ferments among the students everywhere in Russia for the last half century; and now and then professors have been dismissed or exiled.

Photograph by Maynard Owen Williams

THE SPIRIT OF SIBERIA

Yellow sunset and boundless expanse of fine country, in the midst of which a raging forest fire is sending up a wisp of smoke more than twenty miles away. The photograph was taken from a swiftly moving train.

Whether Siberia will remain politically a part of Russia, it is impossible to predict. An able English observer, who traveled there forty years ago (the late Mr. Ashton Dilke), told me he thought Siberia would break away, peaceably or otherwise; but nothing I could learn in the country confirmed that forecast.

The Transcontinental Railroad has become a bond of union, and the Ural Mountains, though they would form a good natural boundary if the peoples living on each side differed in race, speech, and religion, do not, the facts being what they are, constitute a barrier worth regarding.

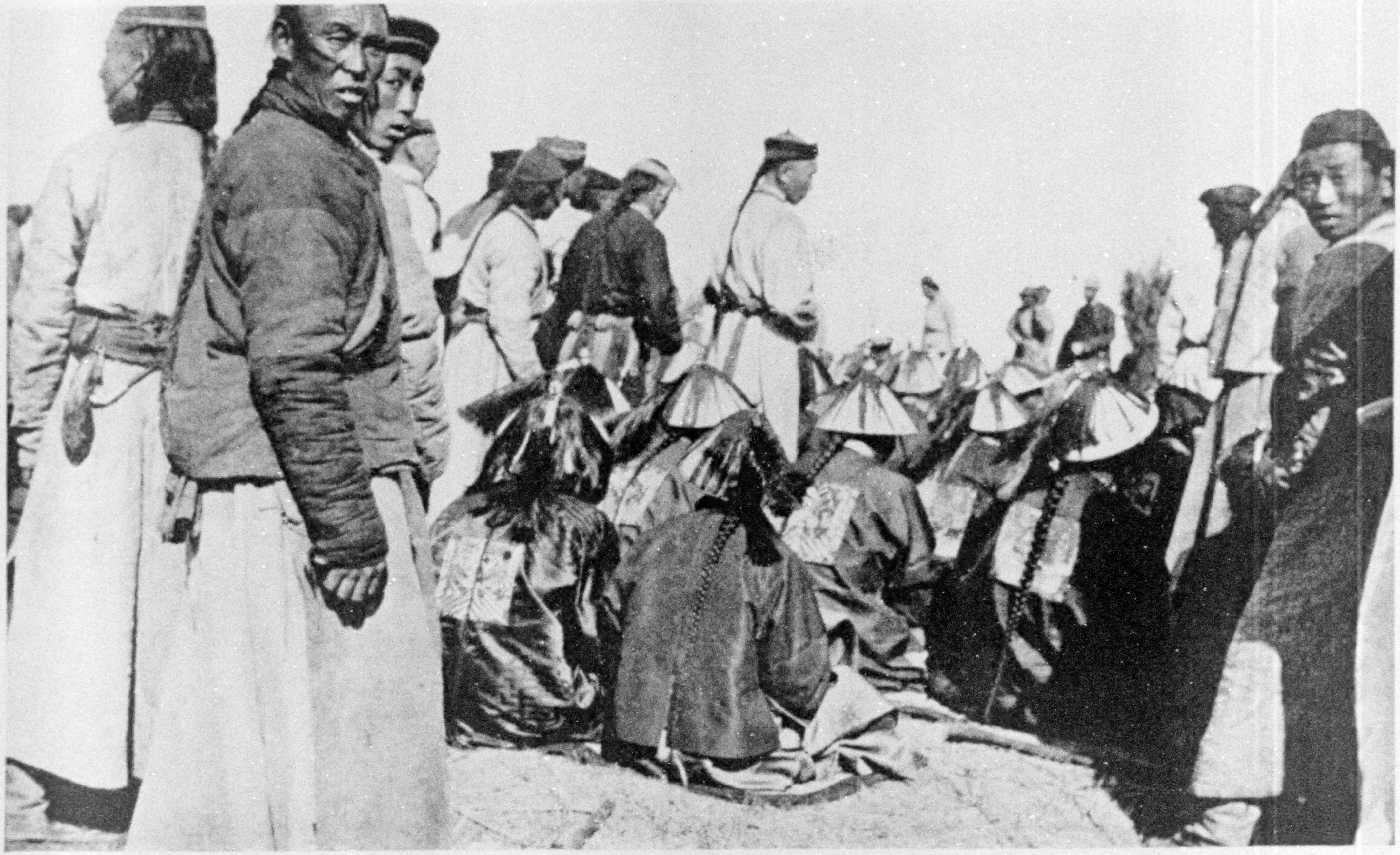
It is much to be wished that they were such a dividing line, for the Russian Empire before 1914 was an unwieldly mass, too big for any one set of men to govern, even had such men been more capable than any Russian ministry has ever been.

Yet in 1913 the Russian Government, moved by that insane impulse which induces states to extend territories already too large, was trying to establish political control over Mongolia as far as the frontiers of China.

The portentous expansion of Russian dominion and the growth of Russian population had become a danger to the world. It was a danger much reduced by the stupidity and corruption of the government, but if a malign fate had set a genius like Frederick the Great or Napoleon on the throne of the Tsars, things might have gone ill for Europe.

PERHAPS A UNITED STATES OF SIBERIA

For its own sake, as well as for the world's sake, it is much to be desired that Siberia as well as Transcaucasia should be disjoined from Russia; and if the inhabitants of Siberia were capable of working a system of federal govern-



Photograph by Eugene Lee Stewart

MONGOLIAN OFFICIALS SEATED BEFORE LAMAS WHO ARE CONDUCTING A RELIGIOUS CEREMONY

Ordinarily the queue is concealed under the hat, but it must be let down while religious ceremonies are in progress.

ment, such a system, consisting of five or six federated states between the Urals and the Pacific, would be better than one huge unitary empire or republic.

What sort of political future may this or the next generation expect to see?

Neither Russia nor Siberia is likely to enjoy free popular constitutional government within any period which conjecture can now assign. But neither is it likely that the economically ruinous despotism which now rules both countries will long endure, or that the incompetent despotism of the Tsars will return.

There may be a time of strife, for the habit of obedience has been broken, and there is now no legally constituted authority for the citizen to obey. But anarchy never lasts long.

Nothing forbids the hope that the natural action of economic forces will, perhaps within a few years, install some sort of settled government, able to enforce order and to permit men to resume their daily work in a normal way.

So soon as Siberia obtains such a government, her economic resources and the industry of her people will enable material progress to start afresh, and she will some day become what western America became fifty years ago and Argentina became thirty years ago—one of the great food-producing countries of the world.

THE PEOPLE OF THE WILDERNESS

The Mongols, Once the Terror of All Christendom, Now a Primitive, Harmless Nomad Race

By Adam Warwick

THE cancellation of Mongolian autonomy by China in November, 1919, and the subsequent trouble at Urga, their capital, have once more drawn attention to the "People of the Wilderness," as the Chinese, with thinly veiled contempt for all who dwell beyond the borders of their own civilization, call their neighbors, the Mongols.

Mongolia is a land with a great past. Seven hundred years ago Genghiz Khan set out from its barren steppes to conquer the world, and swept all before him from the Yellow Sea to the Adriatic. Dazzled though we may be by the magnitude of modern warfare, we stand aghast at the unexampled record of his hundred thousand horsemen, who made a three days' victorious march across a hostile land from the Carpathians to Budapest, with minor expeditions deep into Bohemia, Germany, and Serbia.

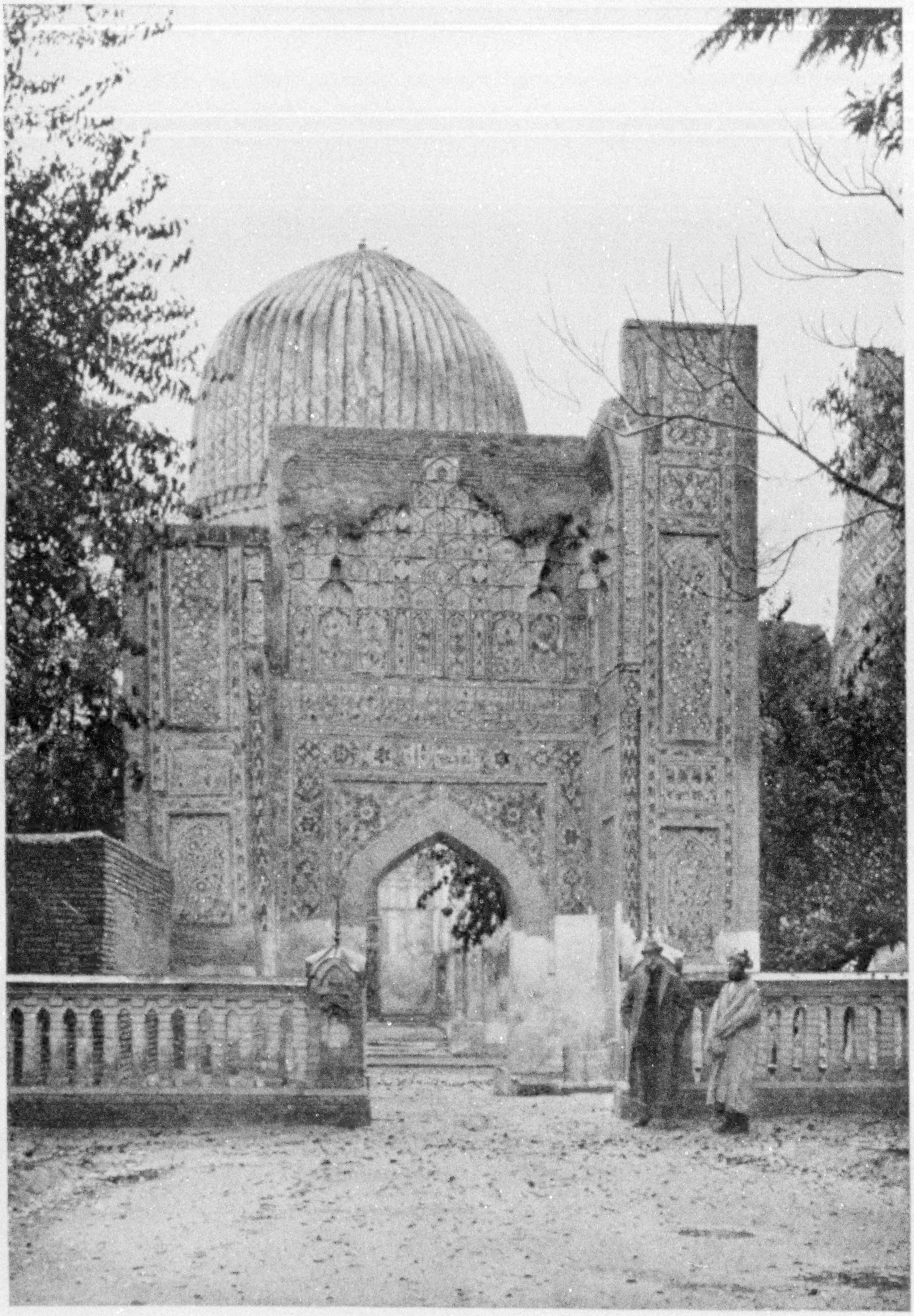
ALL CHRISTENDOM FEARED THE TATAR CHIEF

In those stirring times the world so feared the Great Captain that a special prayer, "Save us from the fury of the Tatars," was introduced into the Christian litany.

It was no idle dread. But for the death of his successor, which imposed three years of mourning and inactivity on the troops, the Mongol forces could not have been stopped by any earthly power until they had reached the limit of the continent of Europe.

Forty years after the disappearance of the Mighty Conqueror (1227), a grandson, Kublai, crowned his triumphs by becoming, not only the master, but the enlightened, magnificent monarch of the whole of China, Indo-China, Burma, Korea, Borneo, and Sumatra. Unfortunately for his dynasty, the settled life of ease and luxury in Peking sapped the vigor of his followers in a single century.

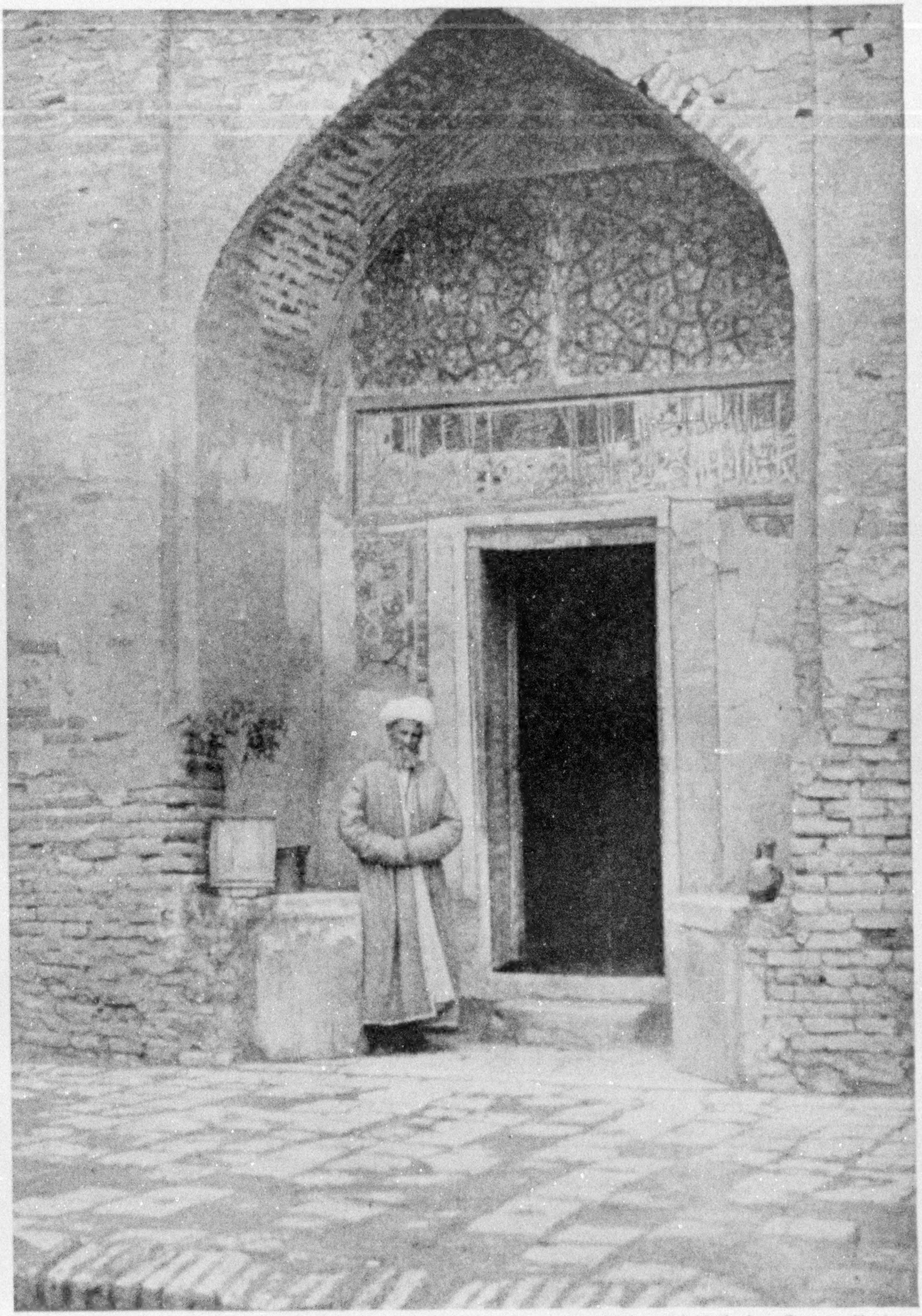
One more great leader was to appear among them in the person of Timur the Lame (Tamerlane), born to subdue Iran and Turan, defeat the growing power of the Turks, and fire Moscow, thus blazing the way for his last descendant, the kindly knight-errant and poet, Sultan Baber, to found the Empire of the Great Mogul.



Photograph by John B. Rogers

THE TOMB OF TIMUR THE LAME (TAMERLANE) AT SAMARKAND, RUSSIAN TURKESTAN

The body of this renowned oriental conqueror, who died in 1405, was embalmed with musk and rose water, wrapped in linen, laid in an ebony coffin, and sent to Samarkand, where it was placed in a sarcophagus of jasper. The tomb consists of a chapel crowned with a dome. Both time and earthquakes have left their mark on the structure, but the interior is still beautiful with turquoise arabesques and inscriptions in gold.

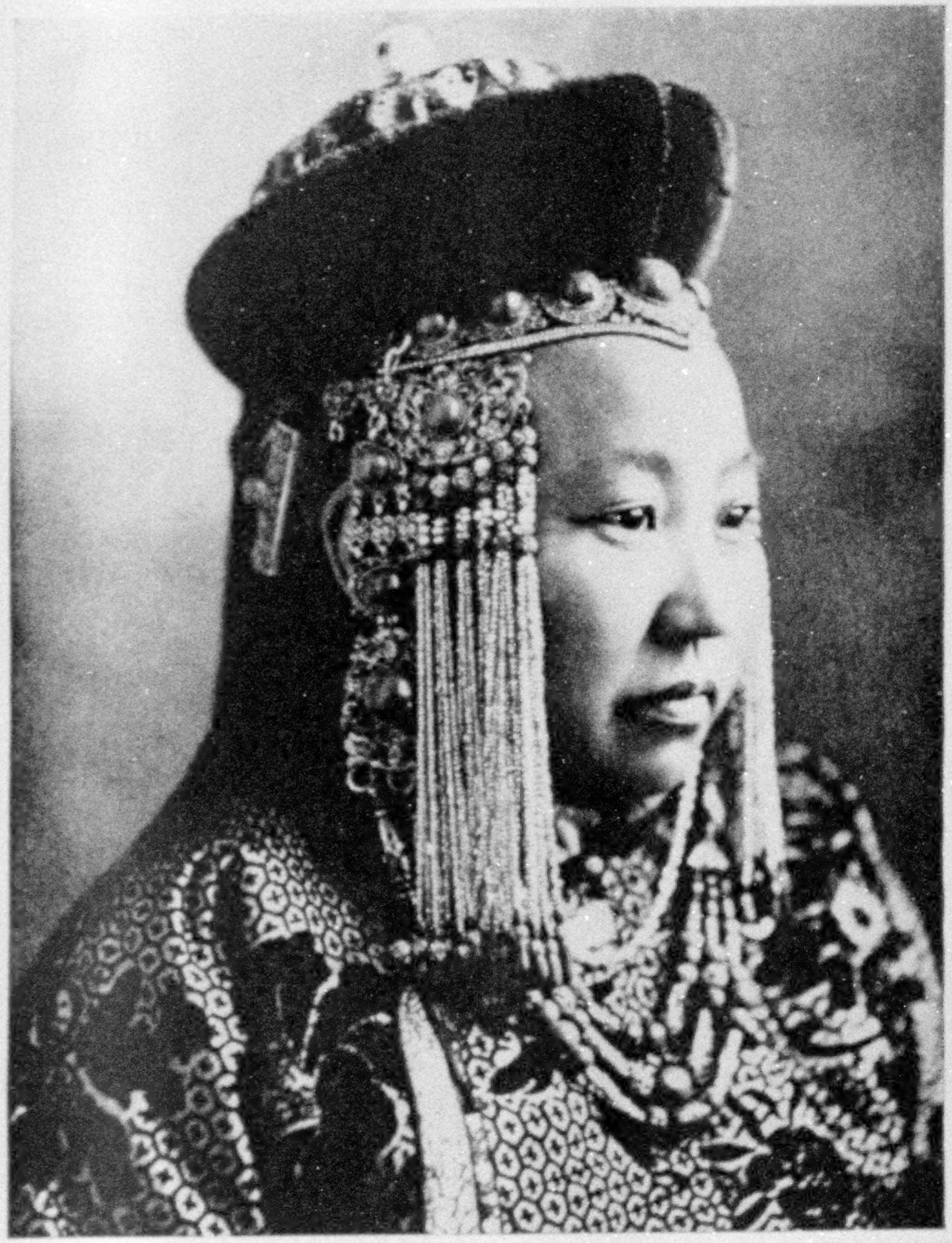


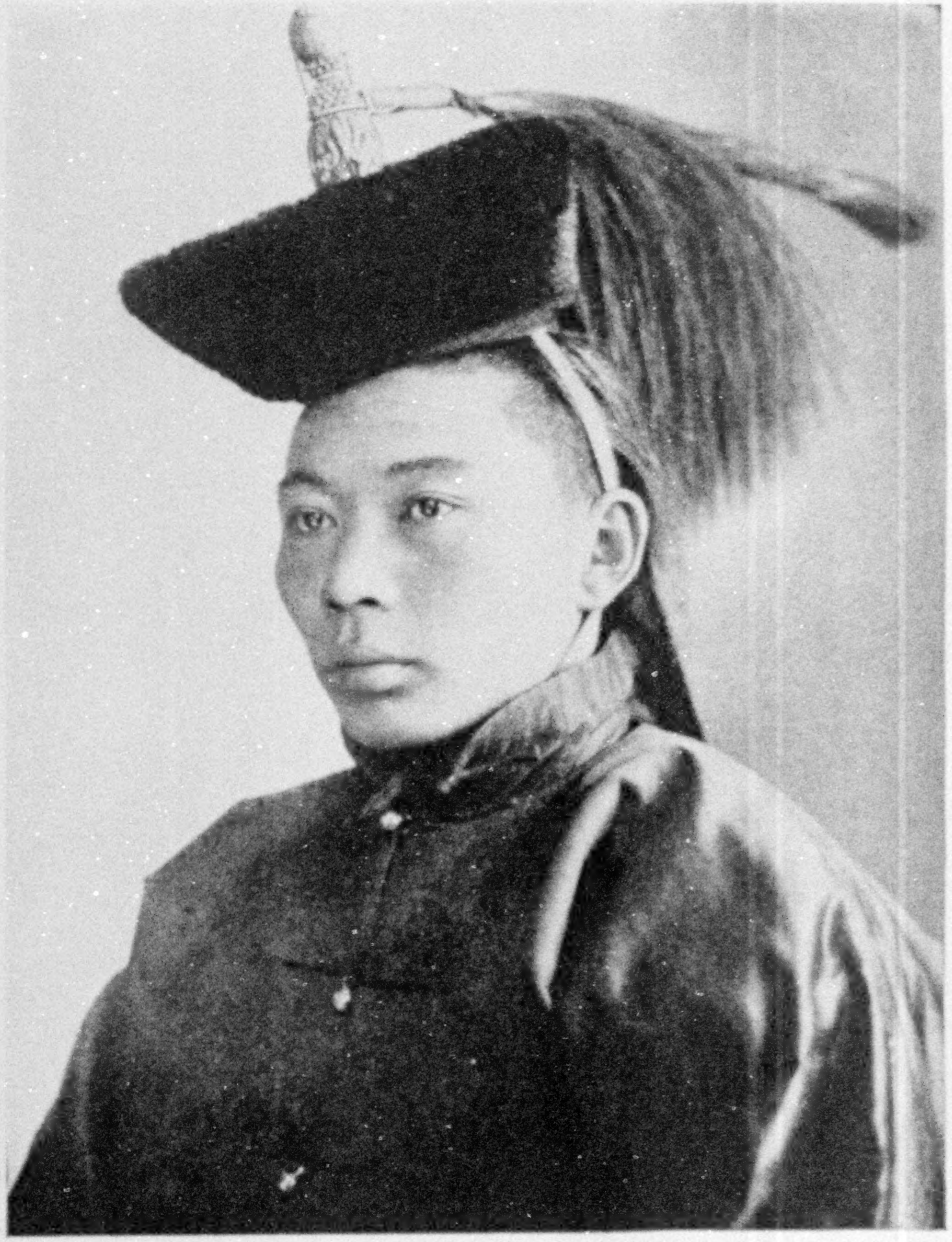
Photograph by Graham Romeyn Taylor

THE DOOR TO THE TOMB OF TIMUR THE LAME

The Mongol leader has been variously painted by his biographers. To some he seems merely "a deformed and impious person of low breed and detestable principles"; to others, a sort of demi-demon, like Richard III. The magnificent but now crumbling summer palace, mosques, and colleges in his capital city of Samarkand bear witness to the fact, however, that Timur and his immediate successors were splendid patrons of architecture.

XUM





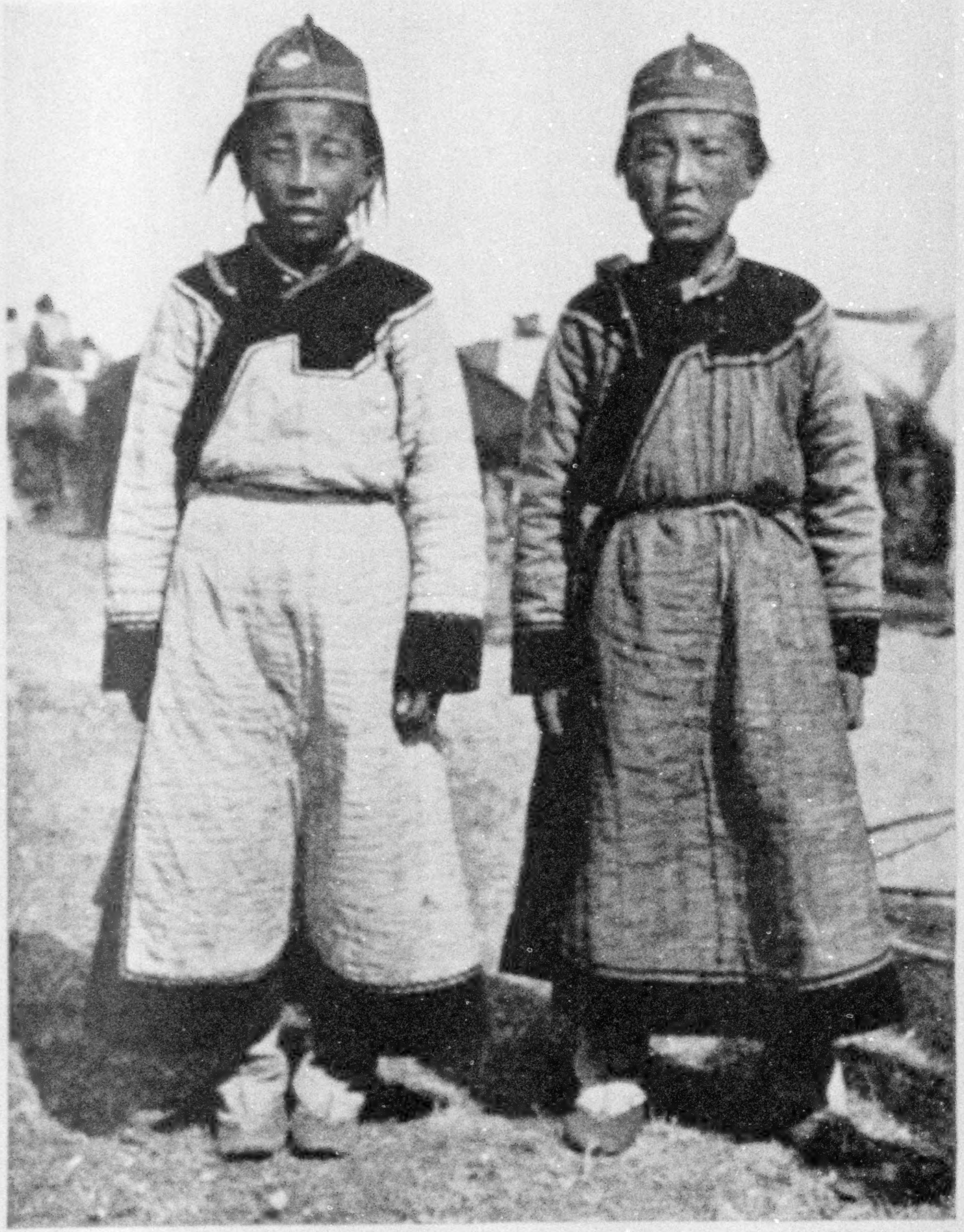
Photographs by Adam Warwick

A MONGOL PRINCESS IN FULL COURT DRESS

A MONGOL PRINCE, DESCENDANT OF GENGHIZ KHAN

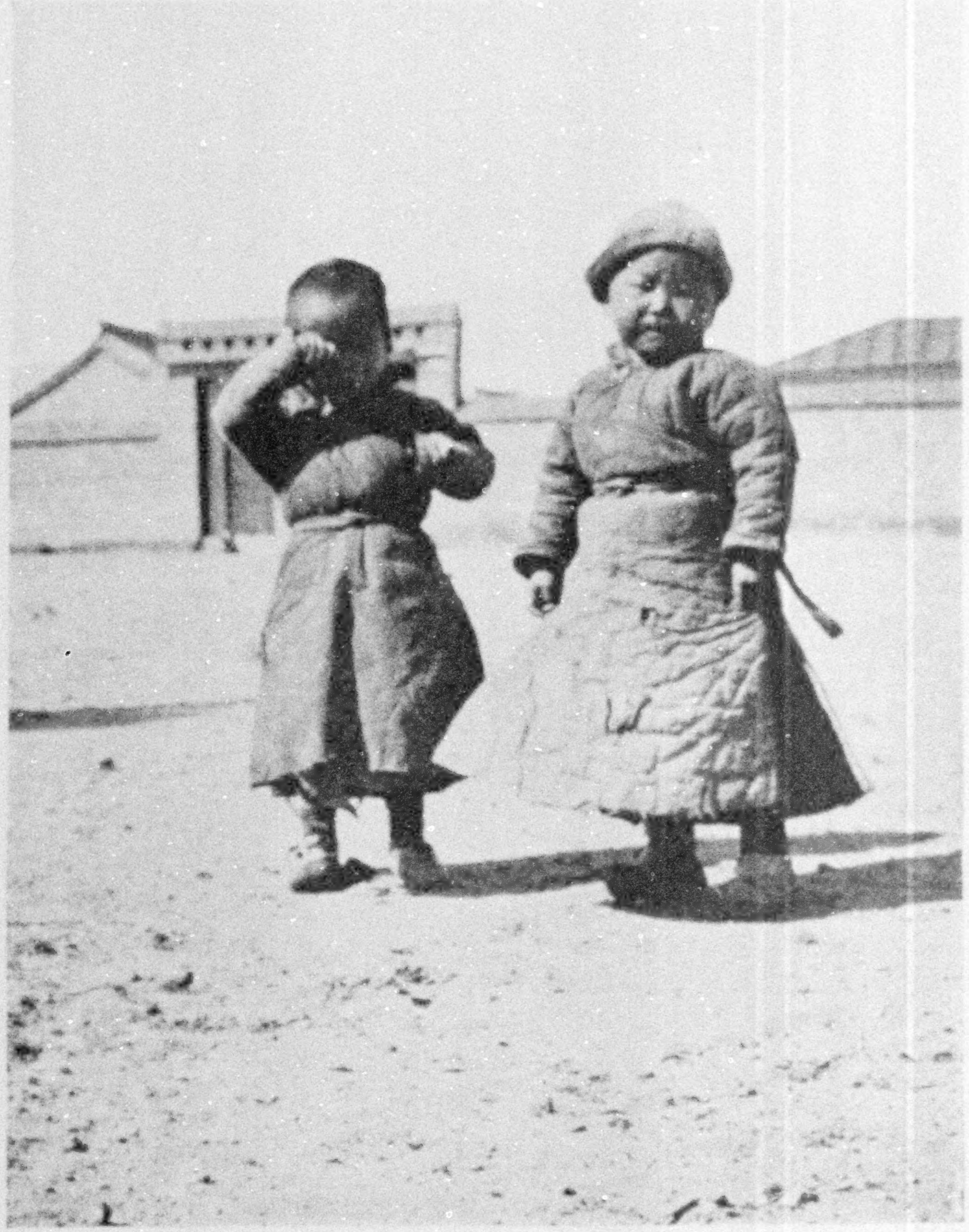
They are the scions of a race of conquerors who for a short time struck terror to the hearts of Christendom. Only a custom which required the hordes to observe a mourning period of three years following the death of their leader saved Europe from a Mongol inundation during the first half of the thirteenth century.

XUM



MONGOLIAN BOYS OF THE BARGOO TRIBE

The cut and pattern of their robes about the neck are distinctive of their tribe.



Photographs by Eugene Lee Stewart

SONS OF MONGOLIANS OF THE OFFICIAL CLASS

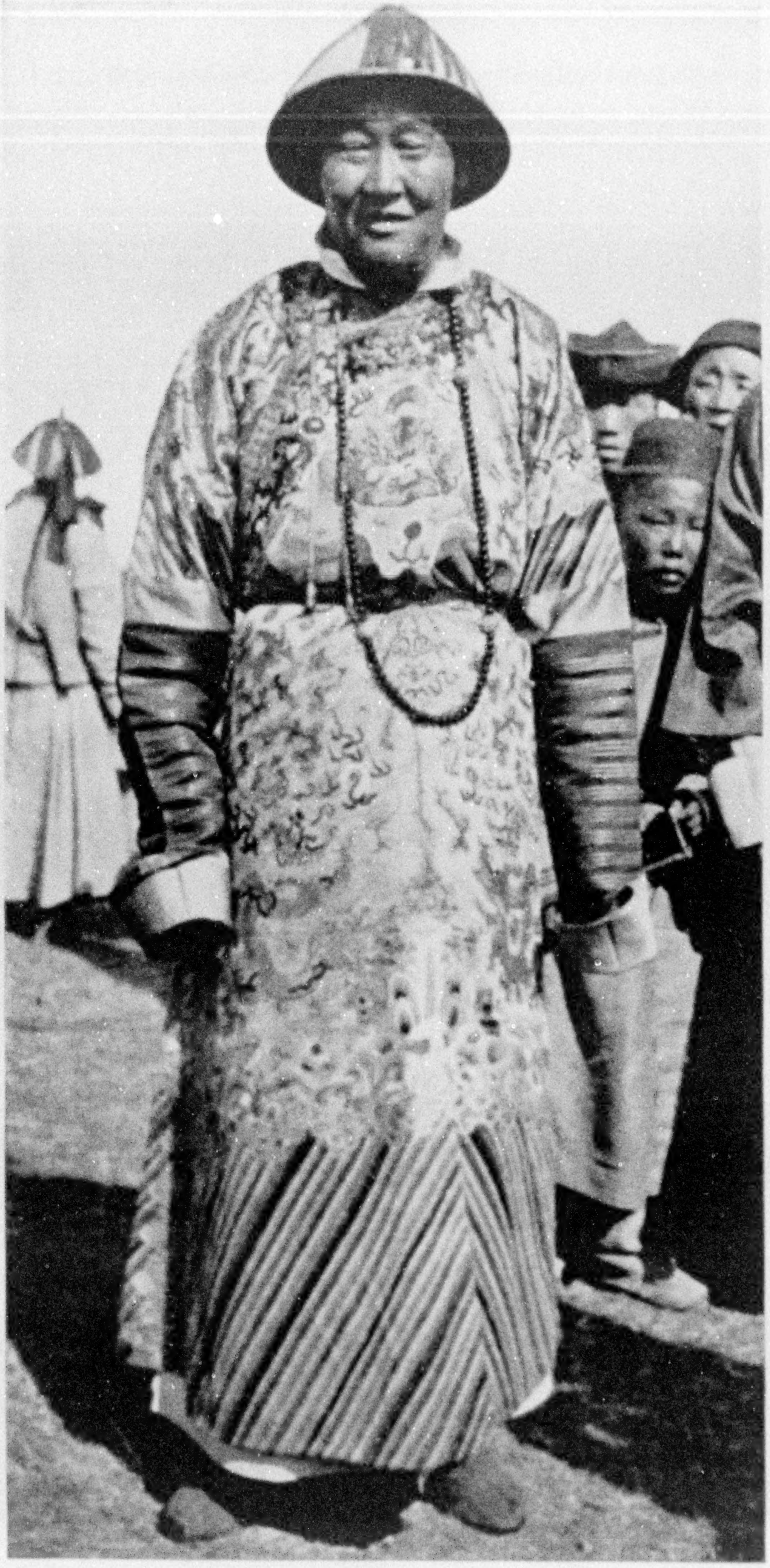
The youngster at the left is not at all frightened by the camera, but sand blew in his eye when he was trying to pose his best.

But the fall of the Mongols was scarcely less rapid than their rise. In China they were able to hold sway only eighty-eight years. Elsewhere their empire crumbled quickly, leaving only isolated remnants under their dominion, until today the unhappy heir of Sultan Baber sits forlorn and impotent beside the Ganges in a badly cut frock coat, with the crown of the King of Delhi on his head.

MANCHUS SUCCEEDED MONGOLS IN CHINA

When events shattered their dream of world power, the Mongols retired once more within the confines of Mongolia proper, where they have lived for centuries in peaceful isolation. The population, thinned by war to 2,600,000 souls, is spread over a vast territory embracing 1,367,000 square miles—an area more than one and a half times as great as the United States east of the Mississippi.

The Manchus, who took over the rule of the Mongols in China, exercised only a nominal control over them. Indeed, Manchu official feet never trod many parts of interior Mongolia, and the local Mongols were allowed practically to govern themselves, preserving their original tribal organizations, headed by native princes.



Photograph by Eugene Lee Stewart

A MONGOLIAN OF THE OFFICIAL CLASS

He is wearing a handsome brocaded yellow silk robe and an ornate necklace of wooden beads. Woven into the robe is an elaborate dragon pattern.

When the Manchus disappeared, the People of the Wilderness, who had never recognized any Chinese rights over them, declared their autonomy and lived contentedly under their self-appointed ruler, the "Hutukhtu," or Bogda Khan (the third Living God in the Lamaist hierarchy, whose temple palace is at Urga), until the fatal day when the Chinese Republic canceled their right of self-determination.

The stage on which this drama of Far Eastern politics took place was too remote to awaken the interest of the powers. Location, climate, and, above all, lack of communications—for Mongolia cannot yet boast a single railway, although there are plans for a line from Kalgan to Kyakhta and only recently a motor-car service has been started across the steppes to Urga (550 miles)—shut off the country from the rest of the world.

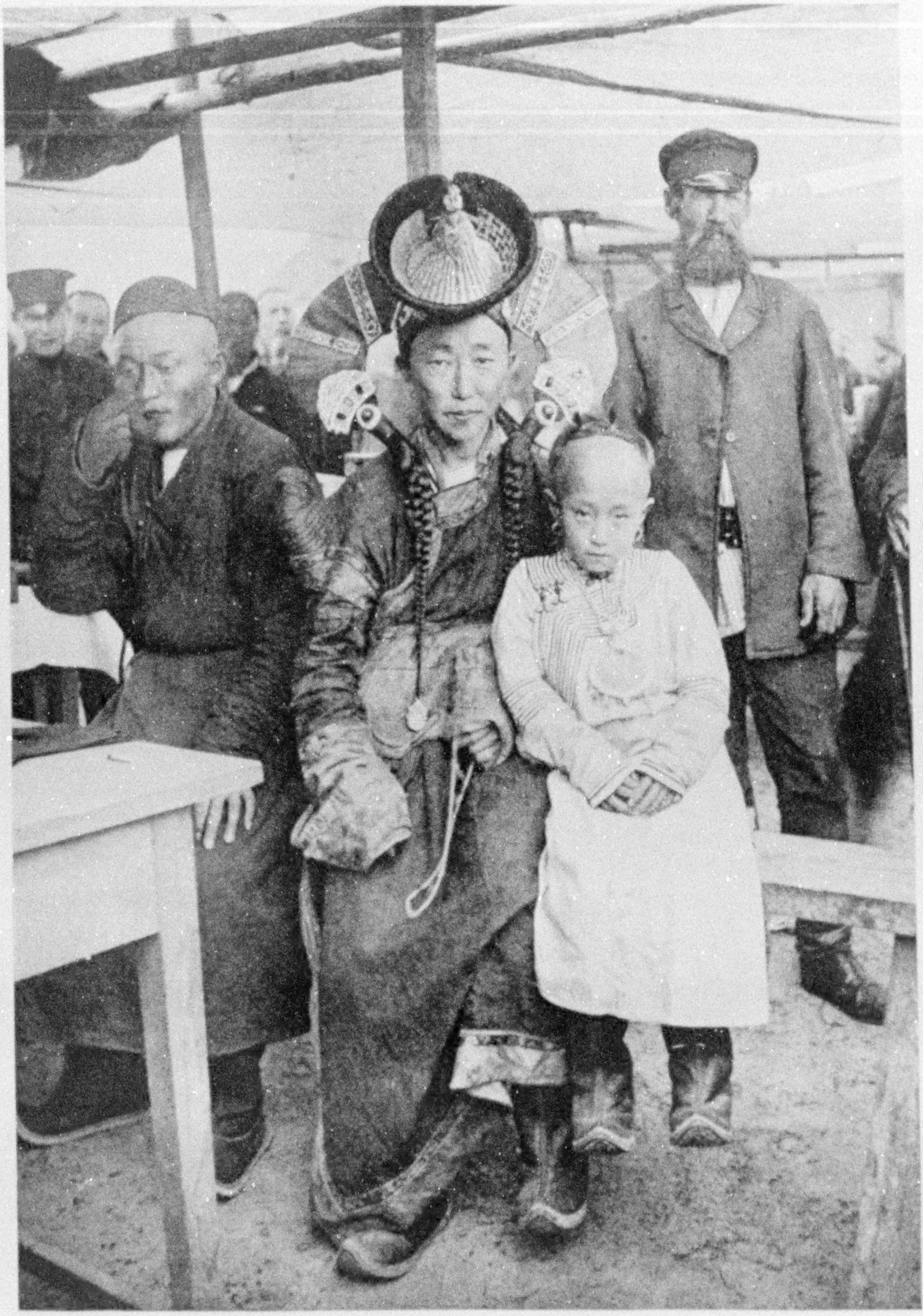
We still know little of Mongolia's resources. Gold mines certainly exist there (one of which, the "Mongolor," is beginning to be developed by American capital), as well as silver, copper, and coal mines. The rivers abound in fish, the forests in valuable timber and fur-bearing animals, while the great tablelands have farming potentialities equal to Texas and Nebraska.

But the primitive Mongols derive little benefit from these riches. Like

Photograph by Eugene Lee Stewart

A CHINESE MAN IN FANTASTIC GARB, MOUNTED ON STILTS

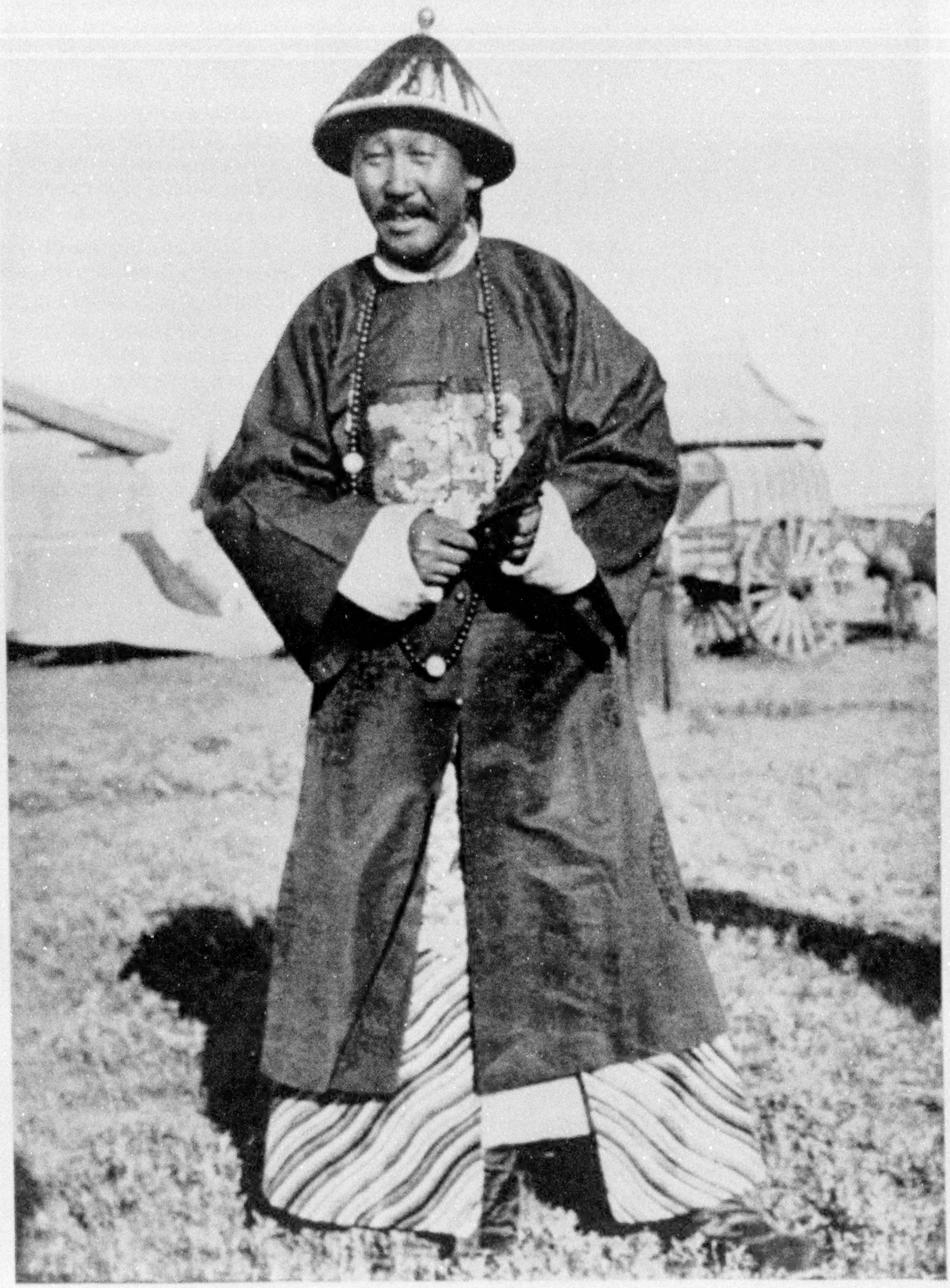
He is participating in a Chinese New Year's parade in Hailar, a town in Manchuria near the Mongolian border (see also illustration on page 520).



Photograph from Horace Brodzky

A MONGOLIAN WOMAN OF THE WEALTHIER CLASS WITH HER DAUGHTER

Note the string of beads in her hand, with which she toys; also note the talisman the girl is wearing. The mother has on her summer hat of black velvet. It is not easy to get a picture of a Mongolian child, for there is a superstition that Europeans use the eyes of children to make the lenses of their cameras.

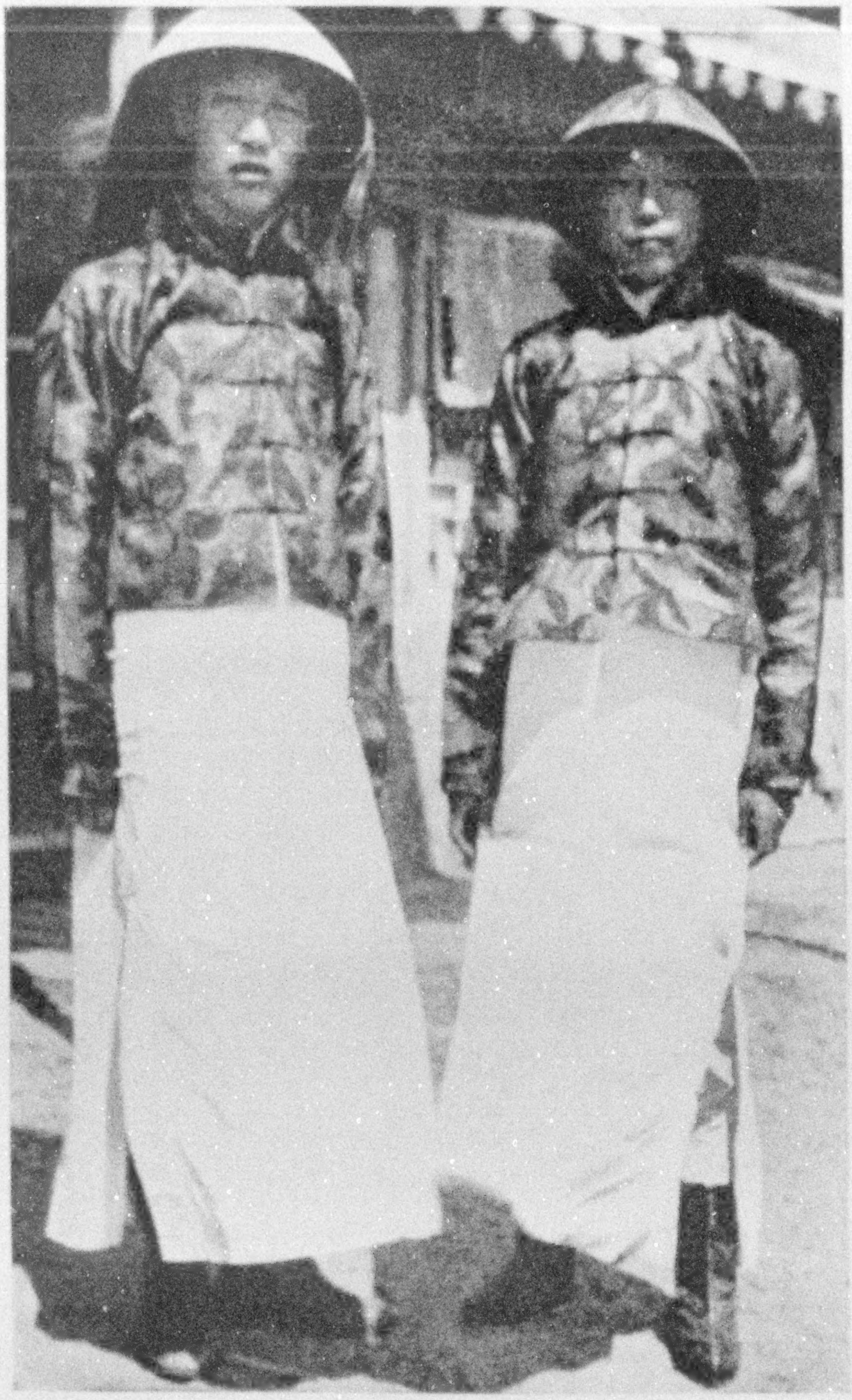


Photograph by Eugene Lee Stewart

A CAPTAIN IN THE MONGOLIAN ARMY

He is wearing his state robes and wooden beads and is ready for attendance upon an outdoor religious ceremony. The chief difference between the garments of the men and the women is that the former gird themselves with a belt. The usual word for woman in Mongolia is "beltless."

XUM



Photograph by Eugene Lee Stewart

MONGOLIAN SCHOOLMASTERS

The man on the right is Mr. Gobel. He has had four years of college at Peking, speaks Chinese, Mongolian, and Russian fluently and quite a bit of English. He is principal of the Mongolian school at Hailar and has seventy boys learning Chinese and Mongolian and studying geography, history, reading, and writing from Chinese text-books. His assistant (at the left) studied at Tsitsihar, in Manchuria.

the lilies of the field, "they toil not, neither do they spin." They are a shining example of how men by reducing their needs reduce their anxieties.

Financial crises cannot affect them, for money as a medium of exchange is little used on the plains, where brick tea has more value than minted dollars. Municipal affairs do not concern them, for they build no cities, leading a migratory, care-free existence. They need no roads: the illimitable steppe is a natural highway where nations can pass without crowding. They require little water; in their climate men cannot wash. They want no electricity: at sundown, after a long day in the saddle, they are ready to lie down and sleep. Finally, the increasing cost of living does not trouble them, since it costs them nothing to live except the care required to guard their herds from wolves.

These herds provide them with clothing, with food, with transport, with fuel even. All over the grass-lands the flocks graze freely, watched by men unchanged since the days of the Great Genghiz.

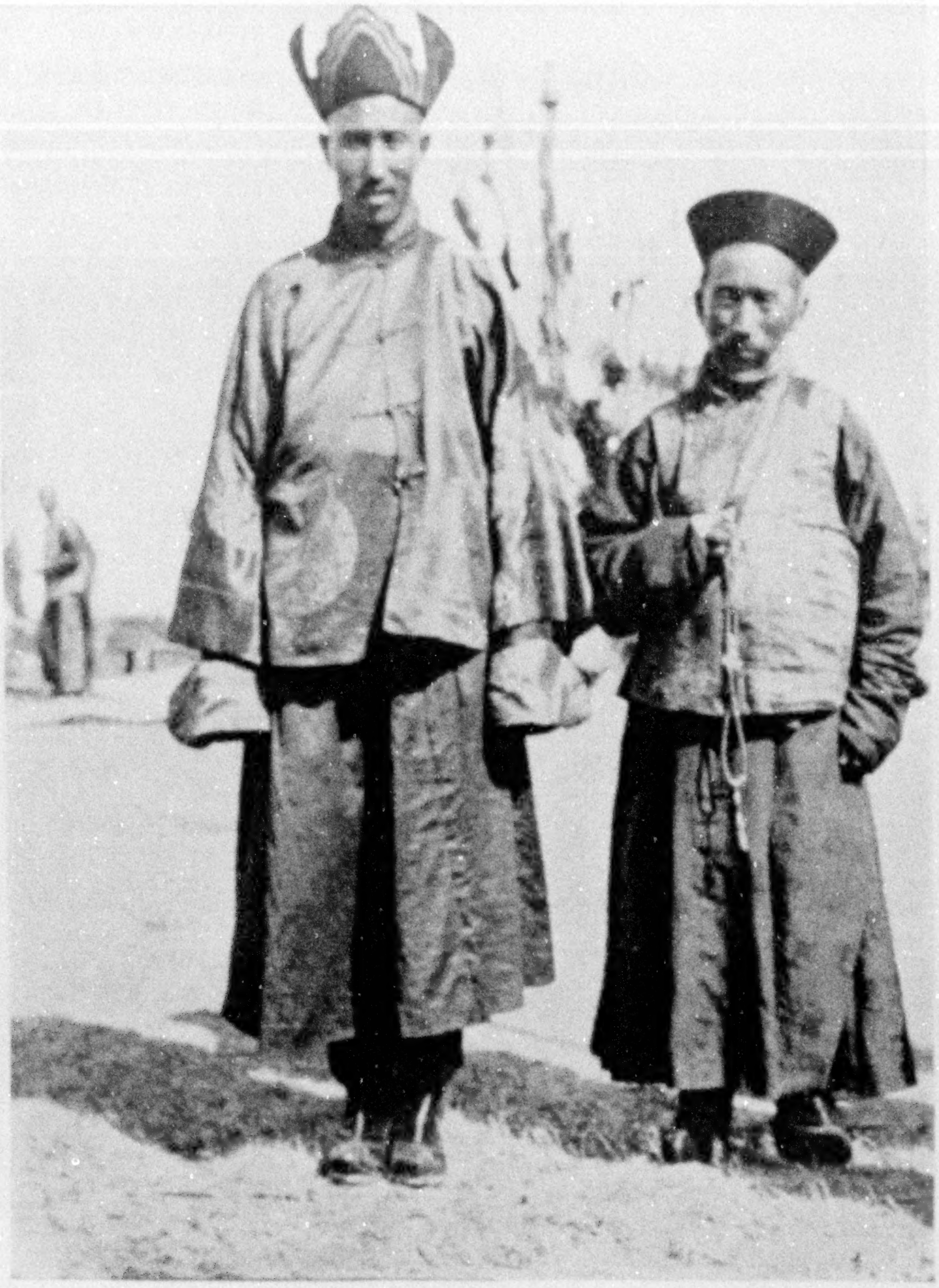
Living an easy, open life—a life of true liberty, remote from courts of justice and police—the Children of the Wilderness willingly abide by his ancient code of laws, simple, logical, humane, and admirably suited to their nomadic habits. Their lumbering ox-carts were designed in his day; their sheep and horses are the original native breeds; the ancestors of their camels carried the silken tents of the Conqueror.

"SHIPS OF THE BURNING SANDS" GAMBOL IN THE SNOW IN MONGOLIA

Mongolian camels are superb beasts, very different from the ugly, flea-bitten, one-humped Arabian variety. In all the glory of their winter coats—for, strange to say this species thrives in the cold and even delights to gambol in the snow—they are pictures of stately dignity, though in summer, when the long hair falls off in patches, they become repulsive-looking.

Winter or summer, however, these camels retain the objectionable character that Kipling has immortalized. Their breath is so poisonous that it is said no camel-driver lives long. Their kick will overturn a motor car. Their bite, followed by a twist of the lower teeth, generally induces blood-poisoning.

Particularly vicious males are marked with a piece of red cloth tied to the forelock, warning the stranger to beware. The Mongols know from experience that even a horseman is not safe from the determined onslaught of a furious camel, who can outgallop a pony and has a nasty, effective trick of throwing beast and rider and then rolling on them.



Photograph by Eugene Lee Stewart

LAMAS POSING FOR THEIR PICTURE

The tall man is a Tibetan and the smaller a Mongolian. The Tibetan Lama is arrayed in gorgeous yellow silk robes and hat and the Mongolian Lama in red silk with a jacket of yellow silk and red hat. Before posing for his picture the latter repaired to his tent and procured the handsome necklace which he is holding.

THE MONGOL HALF-SOLES HIS CAMEL

Though the largest camel will bear only a comparatively small load, lying down and squealing if an extra pound be added, he is the only freight-carrier that can cross the desert, and even he, after some days traveling in the sand, wears his feet to the quick. When this happens the Mongols throw the limping animal on his side, put his foot on a low stool, and cover the tender part with a patch of leather attached by thin thongs drawn through the adjacent callosities of the sole, much as a cobbler mends a shoe.

The camel may be useful, but the horse is much more popular among the Mongols. The native breed, indigenous to the country, is seldom over thirteen hands high and rarely beautiful. But for endurance, cleverness, and originality, the little Mongol pony has few rivals. In the depth of winter his owner neither feeds him nor provides him with shelter.

An extra growth of hair and thickness of hoof (for he is never shod) protect

XUM

Photograph by Luther Anderson

COYNESS IS NO PREROGATIVE OF OCCIDENTAL WOMANKIND

One would never suspect from her jovial demeanor and her gala costume that this Mongolian woman leads a rather lonely life in her felt-covered yurt (seen in the background) while her lord and master is tending his herds on the steppe. Her neighbors are few and far apart, and her chief opportunity for social intercourse is found during the fairs (see text, page 541).

him against the bitter cold. As for his food, this intelligent little beast learns to scrape away the snow with his forefeet and find the sparse remains of the summer grass underneath.

WILD PONIES OF MONGOLIA ARE CAUGHT WITH POLES

Though mares, easily distinguished by trailing manes and tails, are kept at home for breeding purposes, Mongol ponies are exported in great numbers to China. They roam the plains freely until wanted, and are then captured in a curious way.

Two or three Mongols start out together on fleet mounts specially trained for their work. The riders carry long birch poles, like fishing-rods, with a rope noose at one end. When the chosen animal is overtaken, the noose is slipped over its neck with a dexterous twist (see illustrations, pages 528, 529, and 530).

One man then dismounts and, squatting upon his haunches, seizes the terrified animal by the tail. Like the proverbial dog with the tin can, he starts off at a run, dragging the man behind him. The latter slides along over the grass in his soft felt boots till the beast stops exhausted. Then he is easily thrown and a saddle fixed on his back.

Again the animal struggles, squealing like a pig meanwhile, but a strong rider manages to mount him, and after a few minutes the pony is considered tamed and fit to be ridden—by Mongols, at least.

FIELD-MICE OFTEN CAUSE DOWNFALL OF EXPERT HORSEMEN

Expert horsemasters from childhood, both men and women are equally at home in the saddle. In fact, the pony is man's inseparable companion on the steppes, and the Mongol, who will never walk if he can help it, develops an unsteady, rolling gait when ill-luck forces him afoot.

The plains, stretching for miles and miles, would be ideal riding country but for one defect. Falls with fatal results are sometimes occasioned by hollow ground. Field-mice and marmots excavate galleries a few inches below the surface of the earth, and a pony passing over these must go through. Such dangerous spots are usually distinguished by a different color and appearance, but sometimes even a practiced eye may be at fault, especially in early spring, when large tracts of the plain are accidentally fired by passing caravans.

James Gilmour tells an amusing story of an accident due to a few moments' inattention—quite enough to bring down the best horse and rider.

"My guide was before me," he says in his "Travels," "and we were going at a

XUM

rapid pace when all of a sudden I saw his horse with its head turned toward me, its four feet in the air and its rider undermost.

"My guide was a large man and was considerably crushed, though it is strange he was not more hurt by so bad a fall. Both his saddle girths were burst, but, true to his Mongol instinct, he held fast to the bridle. After a little while he recovered and set about repairing the damage.

"As we had no spare strings or straps with us and were far away from human habitations, I wondered how he would do this. But without hesitation he took a handful of hairs from the tail of his pony, twisted and plaited them together, and in a few minutes the straps were as strong as ever.

"Luckily for the careless Mongol horseman on a journey, who is apt to forget anything that can be left behind, the tail of his horse, which is never 'docked,' makes up for all deficiencies."

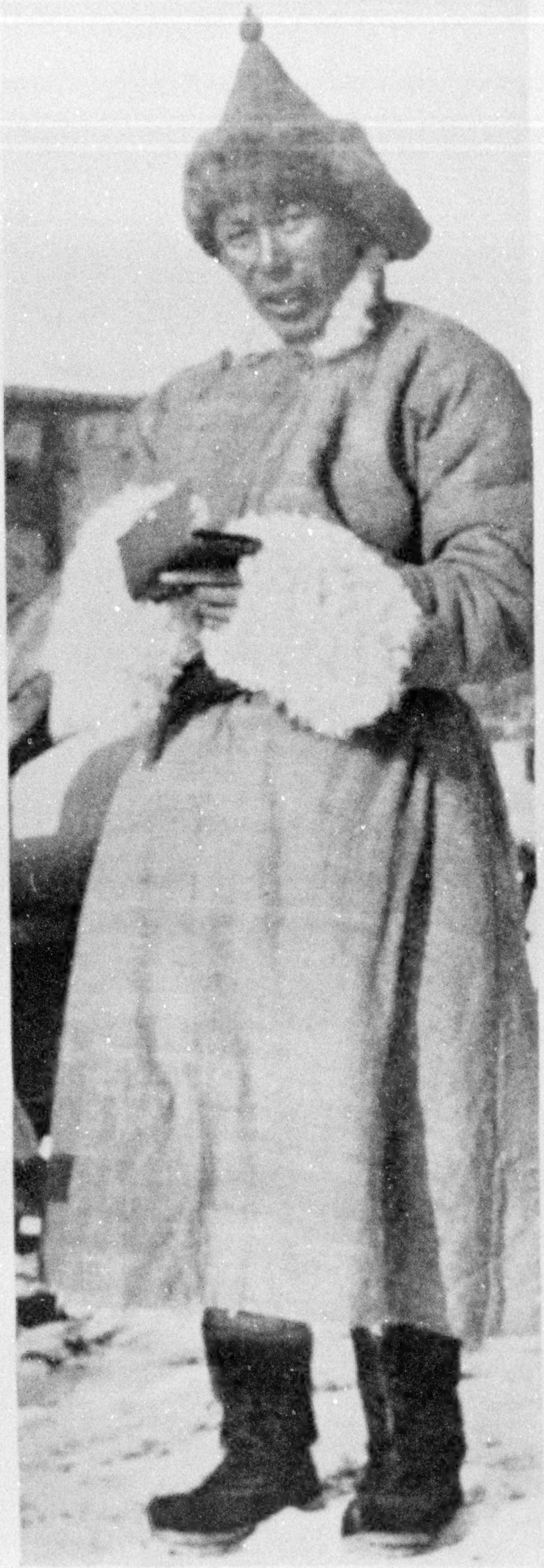
PONIES ARE GRADUALLY STARVED BEFORE A RACE

As is only natural among such confirmed horse lovers, races are a popular amusement in Mongolia. But races on the steppes are conducted quite differently from ours. Even the preliminary training of the entries seems topsy-turvy to us.

Each competing pony is tied to a rope picketed on the grass plain. This rope is shortened every day by a certain number of inches, thus reducing the circle in which the animal can graze. Yet, strange as it may seem, this method of gradual starvation—tested by centuries—appears to increase rather than diminish its endurance.

On the day of the race fetlocks are clipped and manes and tails tightly plaited with varicolored ribbons, so as to offer as little wind-resistance as possible. The jockeys are children, and it is not unusual to see lads of nine or ten start on the exhausting stampede which a Mongol race really is.

No saddles are allowed, but each rider is given a heavy whip and a handkerchief. With the latter he leans over and wipes the dust from the eyes and nostrils



Photograph by Eugene Lee Stewart

A LAMA PAYING HIS CAB FARE IN A MONGOLIAN BORDER TOWN

His name is Yoongadoong. He belongs to the Hkalka tribe, and is attired in new flaming red robes, cap, and black boots trimmed in green.

Photograph by Eugene Lee Stewart

MONGOLIAN WOMEN OF HAILAR IN HOLIDAY ATTIRE WATCHING A CHINESE NEW YEAR PARADE

In the right foreground are a Chinese man, a Chinese girl, and a Mongolian man.

of his mount, as otherwise the dust of the steppe might injure wind or eyesight.

RACING PONIES LEAN ON EACH OTHER FOR SUPPORT

The straight course is so long that often there is a good deal of difference in time between the arrival of the ponies.

Enthusiastic owners or spectators, including bishops and archbishops of the Lamaist faith (for the church does not frown on racing on the plains), gallop out to meet the contestants and assist in whipping them in. But sometimes two favorites arrive at the finish literally leaning against each other shoulder to shoulder. Thus they support each other on the run, though both are so exhausted that if they were suddenly separated they would drop in their tracks.

Wonderful tales are told of the distances covered by famous Mongol racers at a stretch. Fifty, even a hundred, miles at full gallop are claimed. This is doubtless exaggeration, but fifteen- and twenty-mile races at great speed are well authenticated.

After the "meeting," the crowd usually adjourns to some neighboring monastery, where a festival in honor of the day is held.

A RELIGION OF TERROR

In Mongolia monasteries are the great centers of amusement, interest, culture, and—wickedness (see illustration, page

Photograph from Horace Brodzky

A MONGOLIAN SOLDIER SMOKING HIS PIPE

The Mongolian never drinks water or anything cold. He uses brick tea, made of tea dust from Chinese factories. A "brick" is as hard as granite. When a Mongolian wants a drink, he wraps the brick in an old cloth and places it in hot cow dung until it gets soft enough to enable him to break off a piece. This piece he grinds in a mortar and boils up in a horrible mess with milk or lumps of fat. He uses salt instead of sugar in his tea. He has a method of boiling his milk that makes it look like custard.

544). The priests exercise complete sway over the people by their unlovely religion of terror, the Tibetan form of one of the later sects of Buddhism known as the Tantric—a revival of the morbid Indian cult of Siva.

This repulsive creed, with its hideous demonology, is so well suited, however, to a land where cruel and tremendous atmospheric phenomena make man appear a helpless atom struggling against the mighty natural forces of existence, that it prospers.

Like frightened children, the People of the Wilderness desire to see their terrors embodied in idols which may be placated, and the cunning monks are quick to take advantage of their fears. Thus monasteries arise and grow rich.

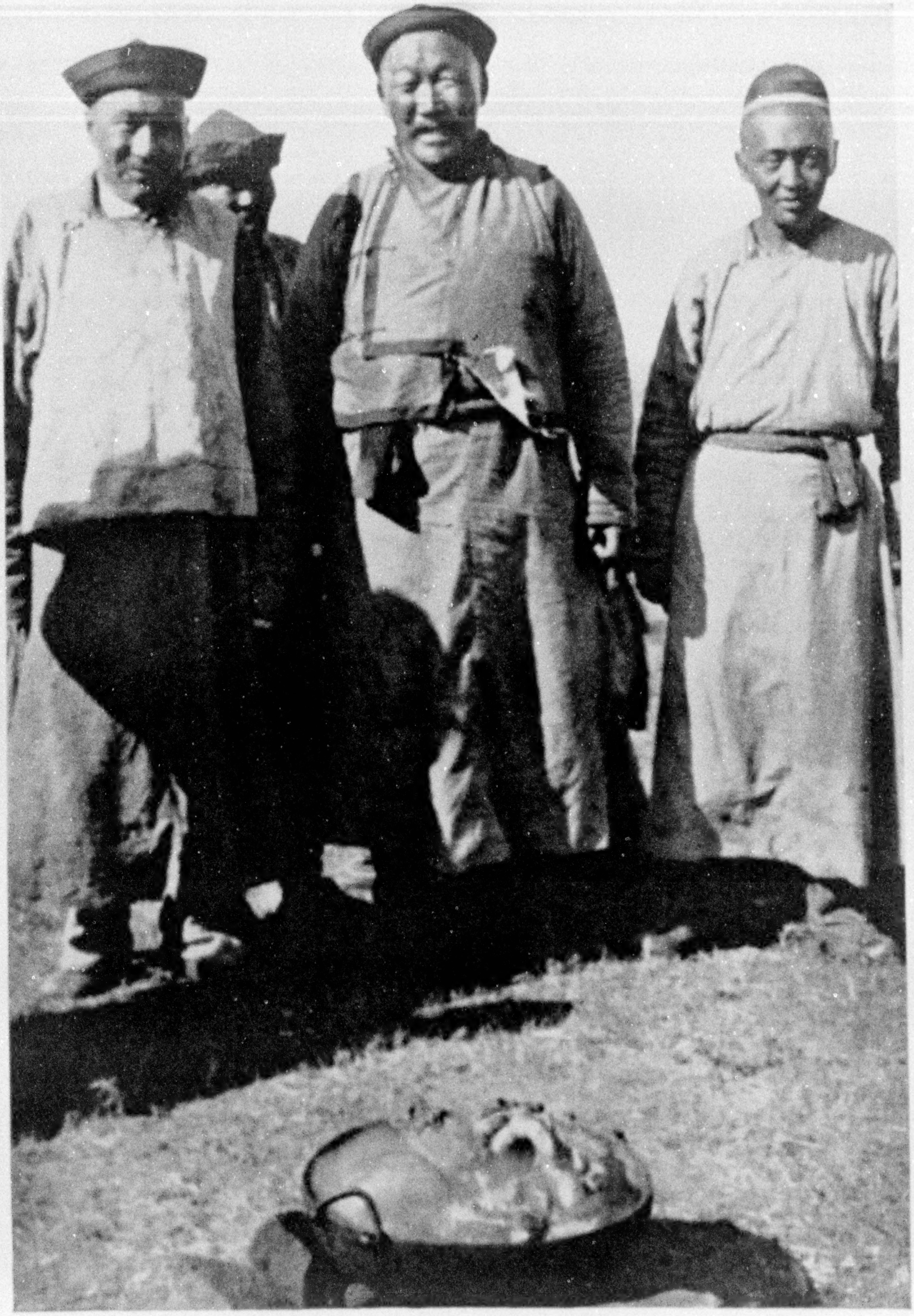
These establishments are the finest buildings in Mongolia. Resplendent from afar in colors and gold, their lofty square buildings, often standing on some rise of ground, lose their effect somewhat on closer view, owing to the dirt in which these communities of monks are content to live.

"THE ABODES OF THE LIVING BUDDHAS"

The most famous and best kept monasteries are the abodes of the Living Buddhas. The current belief is that these men are gods incarnate, and when they die, or, as the Mongols put it, "change the vehicle," are reborn into this world with the power to remember their former existence and prove their identity by using phrases characteristic of the last Buddha, selecting things that belonged to him from among many which were not his, etc.

Great parade is made of the testing of a new candidate. Of course, the chief Lamas arrange everything and coach "the

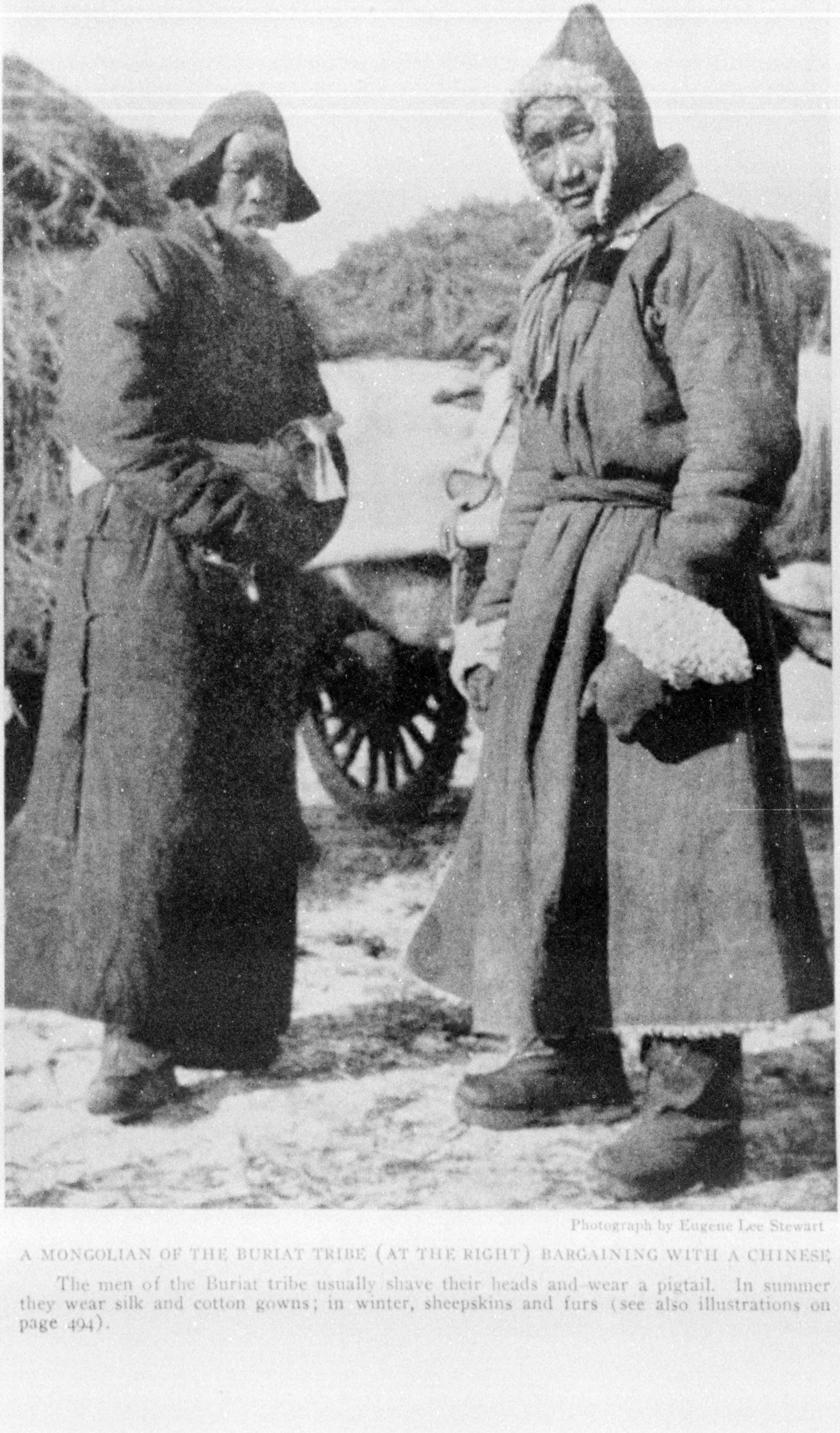
XUM



Photograph by Eugene Lee Stewart

MONGOLIAN MEN WAITING FOR THEIR DINNER TO COOK

The average evening meal of the Mongolian "tenthold" consists of mutton boiled with a kind of millet. When done, the morsels are fished out of the pot with fire-tongs and served in a rude basin or on a board (see also illustration, page 501).

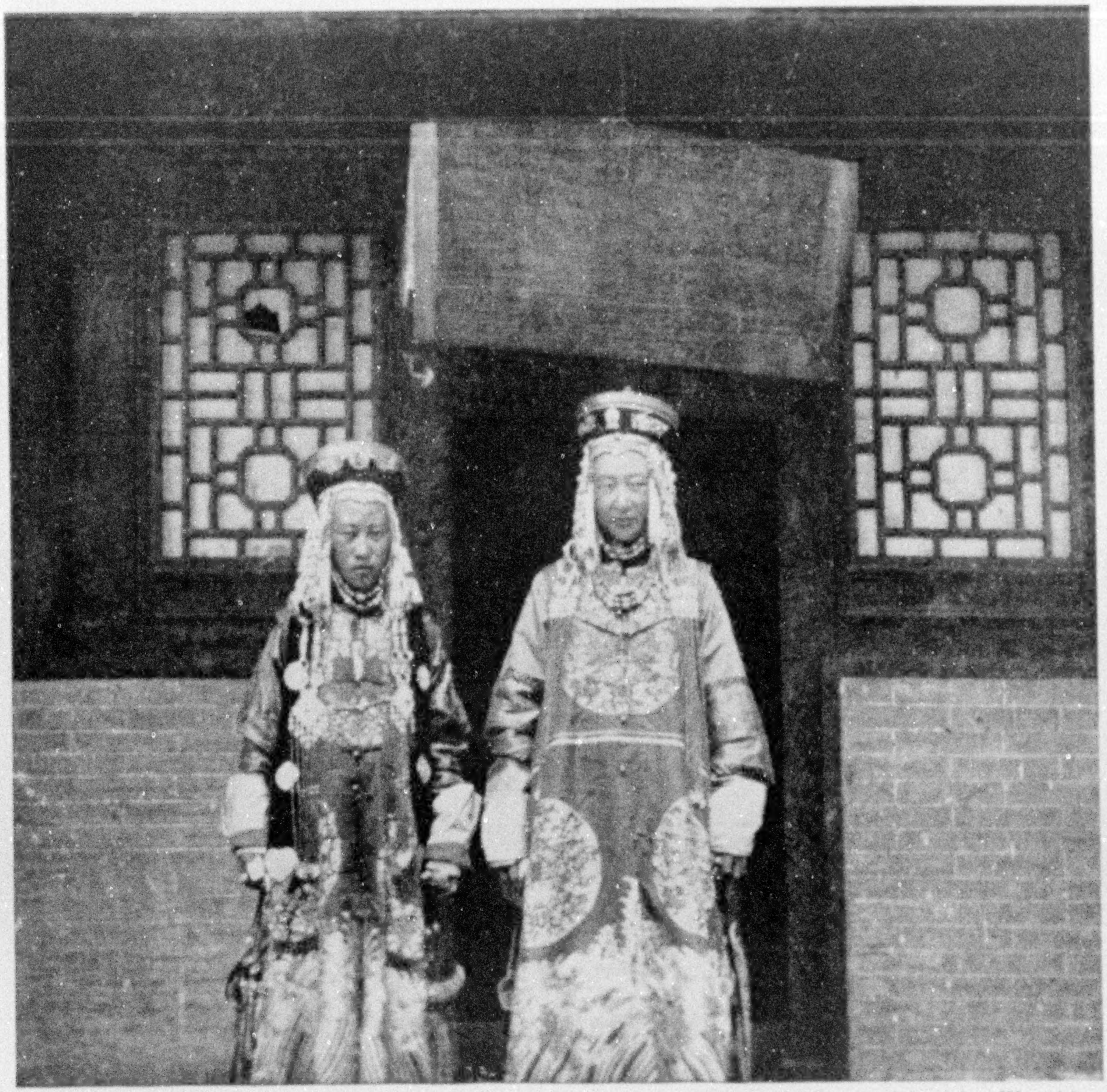


Photograph by Eugene Lee Stewart

A MONGOLIAN OF THE BURIAT TRIBE (AT THE RIGHT) BARGAINING WITH A CHINESE

The men of the Buriat tribe usually shave their heads and wear a pigtail. In summer they wear silk and cotton gowns; in winter, sheepskins and furs (see also illustrations on page 494).

XUM



Photograph by Adam Warwick

MONGOLIAN WOMEN IN GALA ATTIRE

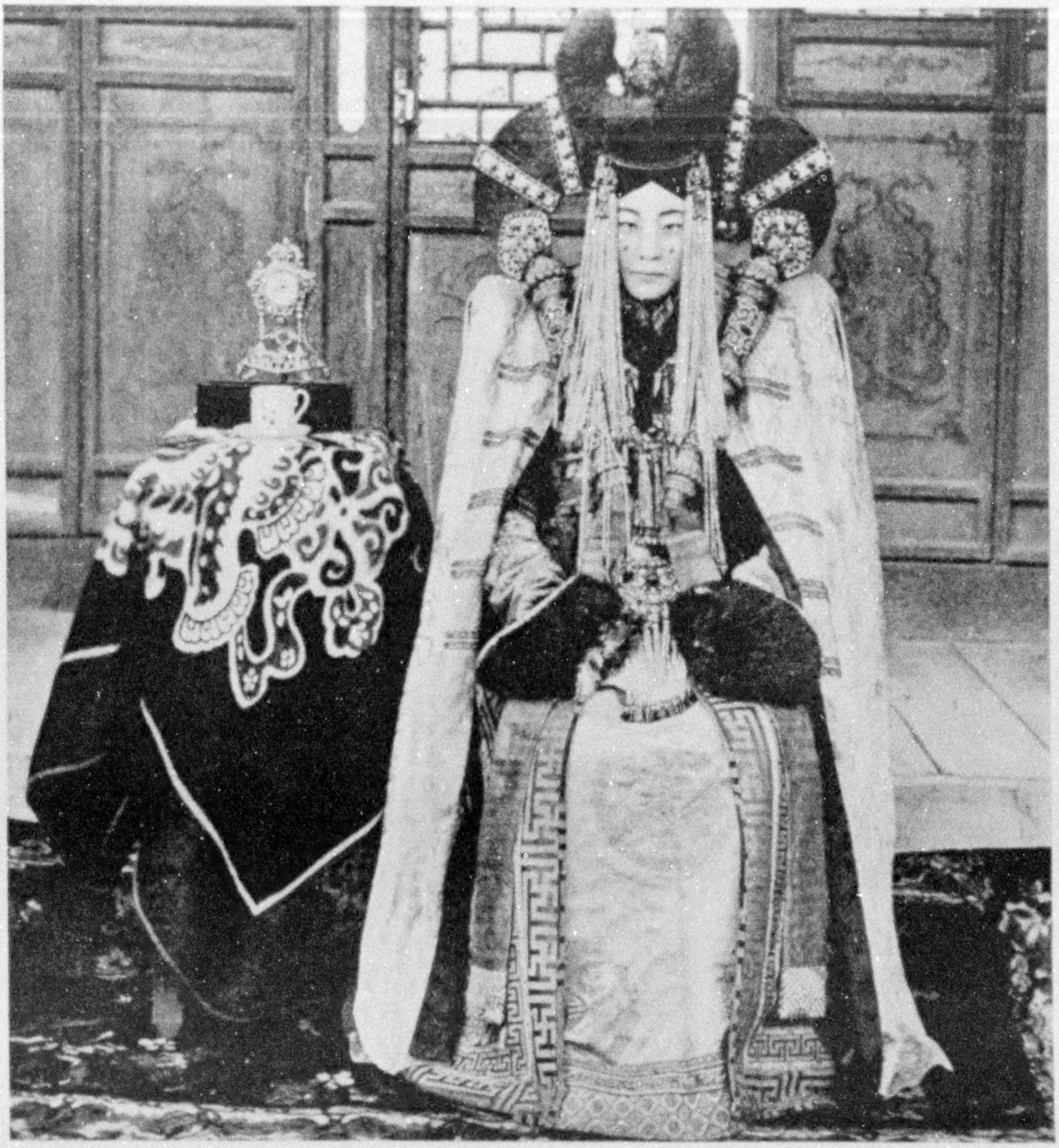
On ordinary occasions the chief article of apparel for both men and women is a wide, roomy coat of plain material, but on holidays the women wear elaborately embroidered gowns. Note the headgear with curtains of red coral, turquoise, and pearl.

successor," but the common people, perhaps even the majority of the monks, believe the hoax most implicitly.

The crowd that makes its way to the monastery after the races gives abundant proof of the part religion plays in Mongol every-day life. Many a man will be saying his prayers or counting his beads as he rides along. Follow him to the temple itself and you will find him, as soon as he dismounts, joining a company with dust-marked foreheads to make the rounds of the sacred places, visiting at every shrine, bowing before every idol, prostrating himself on sloping wooden platforms.

Fanatical devotees may be met performing the "falling worship"—that is to say, throwing themselves flat on their faces and marking the place of their next prostration by their foreheads—a very exhausting form of piety, which soon wears out hands and clothes unless (as generally happens) wooden sandals are fitted to the hands and sheepskin pads to the knees.

Even little children may be seen turning prayer-wheels filled with written prayers, the idea being that any devout believer who turns the wheel acquires as much merit by so doing as if he had repeated all the prayers thus set in motion.



Photograph from Luther Anderson

A MONGOLIAN LADY SITS FOR HER PORTRAIT BEFORE A CHINESE PHOTOGRAPHER

Note the primness of the pose, the beauty spot on each cheek, and the cup-and-saucer and clock decorations at the lady's right.

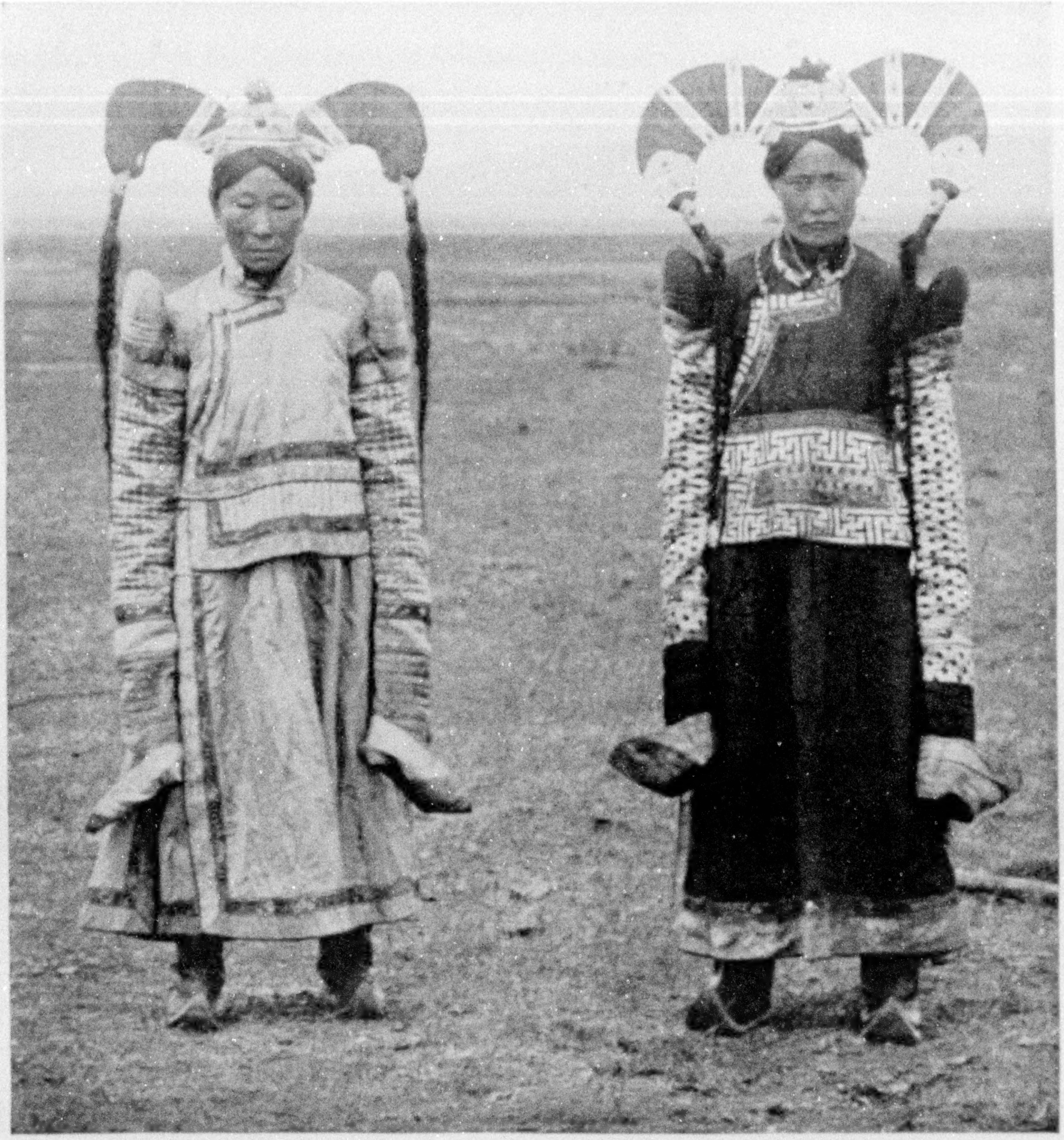
One of the greatest festivals of the Lama church is the Devil Dance, which takes place each spring and represents the chasing out of the Spirit of Evil. The dance is simply a series of posturings of men and boys in rich costumes and fearsome animal masks accompanied by an impressive chant.

But a far more interesting survival of the primitive nature cult is known as the Midsummer Festival. It attracts crowds of pilgrims. Caravans begin to arrive many days in advance, when the surroundings of the temple present a busy scene of activity, with Chinese traders crying their wares and itinerant restaurants preparing food.

The richer and more prosperous visitors arrive in camel-carts, with an impressive train of outriders, and camp in their own tents. Some families come in bullock-wagons, which, with a few mats fixed over them, make admirable shelters for their stay.

But by far the greatest number appear on horseback, solitary or in companies,

XUM



Photograph from Horace Brodzky

TWO MONGOLIAN BEAUTIES, THE WIVES OF WELL-TO-DO CATTLEMEN

They wear their wealth upon their hair, including a profusion of silver ornaments.

men and women, respectable characters and notorious thieves, Lamas and laymen, dressed—some well, some poorly, but nearly all gaudily—in yellow, blue, red, white, or green.

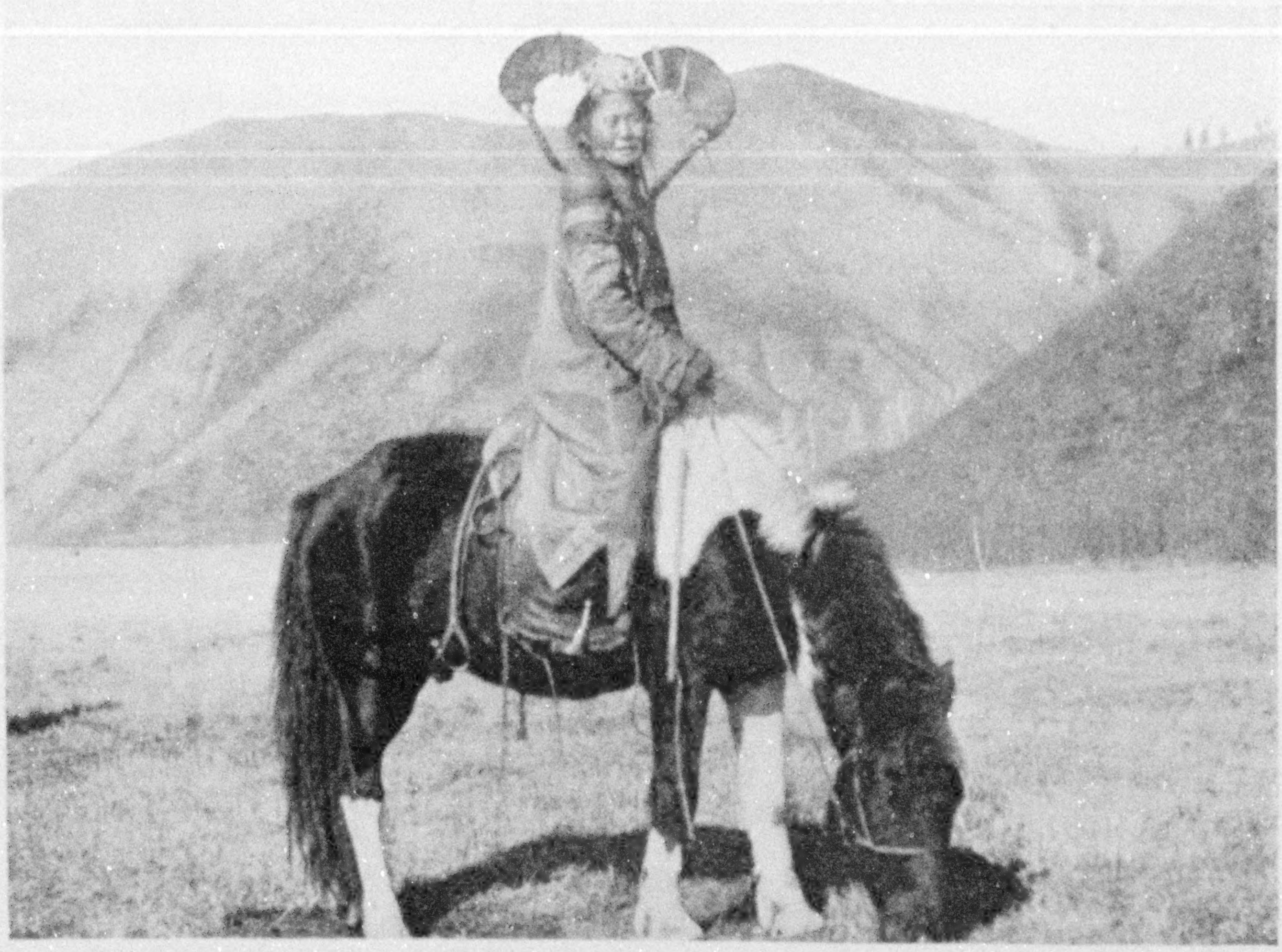
On the day of the ceremony the monastery is astir before dawn. The monks of various grades assemble soon after cockcrow, gorgeous in purple hieratic gowns, red waistcoats, scarlet or golden togas.

The Living Buddha appears in his fringed orange felt helmet, the abbots in their fat lacquer hats, the lesser Lamas in silk or gold brocade skull caps, the lay officials in the old Manchu hats topped with colored buttons to denote their rank.

The whole company rides out of the monastery gate on ponies well groomed for the occasion and crosses the steppe to the obo, or sacred mount.

Such elevations, crowned by piles of stones with a flagstaff and fluttering prayer banners in the center, are landmarks all over Mongolia (see illustration, page 543). They represent the ancient totems to the nature spirits which have been adopted by Lamaism from the "Black Faith" (Shamanism) and dedi-

XUM



Photograph by Adam Warwick

A MONGOLIAN PEASANT WOMAN RETURNING FROM A MIDSUMMER FESTIVAL

Note the typical Mongolian coiffure. The precise nature and shape varies according to the tribe.

cated to some saint of its own creed. Every Mongol stops to worship at them, leaving some kind of an ex-voto to attest his piety—a bit of rag or fur from his clothing or a handful of hairs from his horse's mane or his own head.

Having ascended the hill, the priests gather round the stone cairn, which has been previously decorated with leaves and branches. A tent is set up near by for the Living Buddha, the high Lamas, and the civil officials. Lesser dignitaries squat upon the ground in a circle.

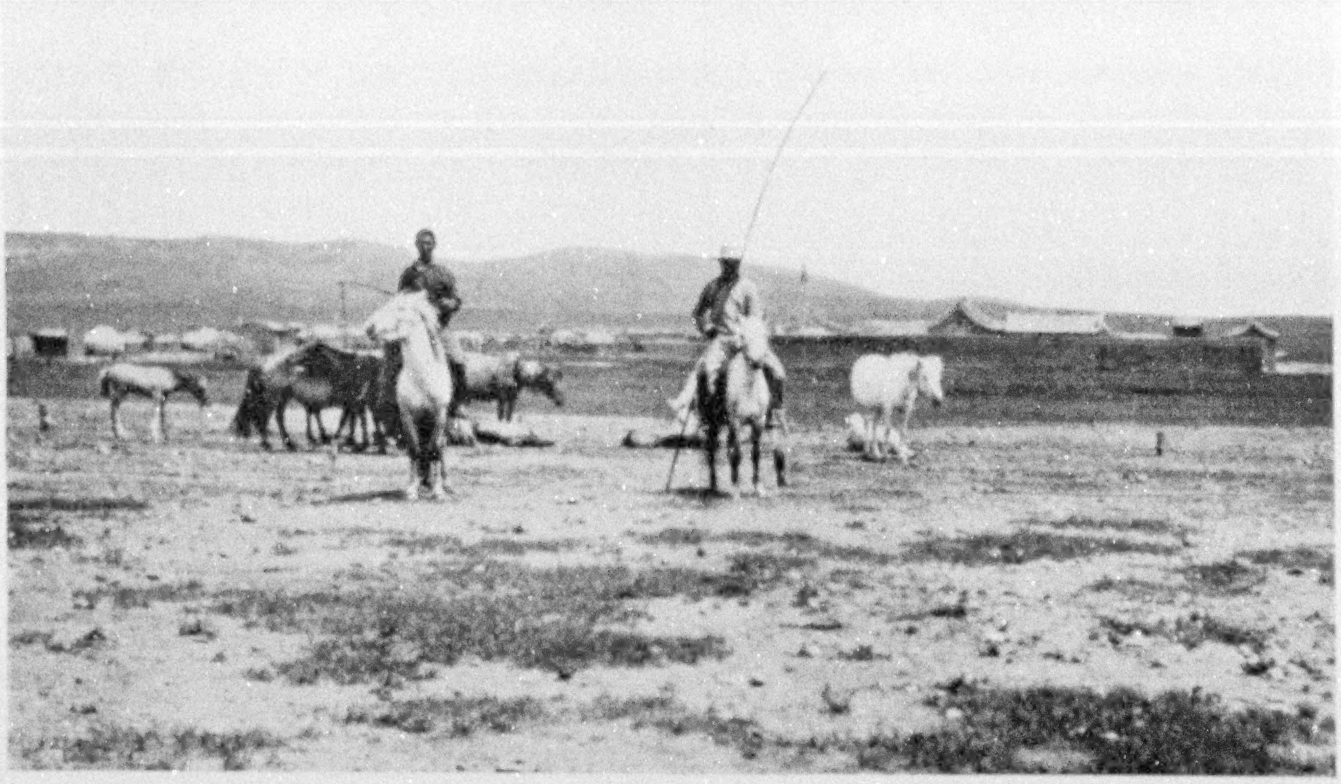
Then the weird service begins, accompanied by all the strange paraphernalia of the Lama cult—huge bronze trumpets six feet long, flutes made from sea shells, and libation cups from human skulls.

A FEAST OF COLOR IN A RADIANT LANDSCAPE

The ceremony must be completed by sunrise, when the participants return to the monastery for the popular festival, some riding rapidly, some riding cautiously, but all converging on one center, and many of them ending up with a furious gallop to show their fine ponies at their best.

The crowd is a feast of color in a radiant landscape. The background of distant blue hills merges into a translucent blue sky, where an eagle, sharply silhouetted in the clear air, circles above. Holy cranes watch solemnly beside the waters of a distant salt lake that reflects the azure of the heavens. Queer long-tailed mice prowl about. A spotted deer, whom it is a sacrilege to kill, stands fearlessly—an orange speck—beside the temple, and a herd of fleet "tserengs," or steppe antelope, knowing the hunter is less considerate of them, bounds away toward the horizon.

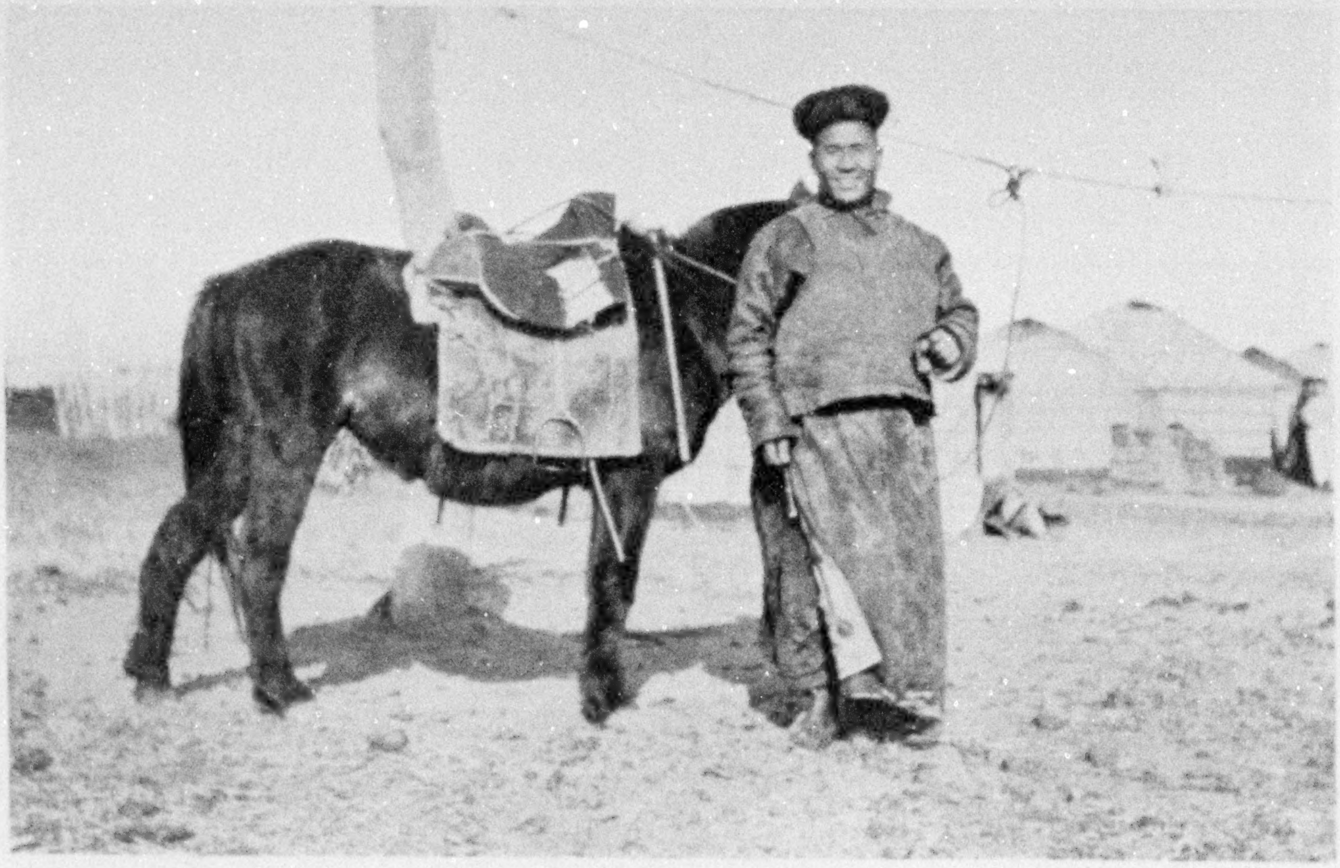
By this time a group of white tents has been erected in the meadow for the feast. The largest serves as a reception hall. Inside a big transversal bench has been prepared for the guests of honor, whose places are marked by double cushions covered with priceless old silk carpets



Photograph by Adam Warwick

A PAIR OF MONGOLIAN HORSE-CATCHERS

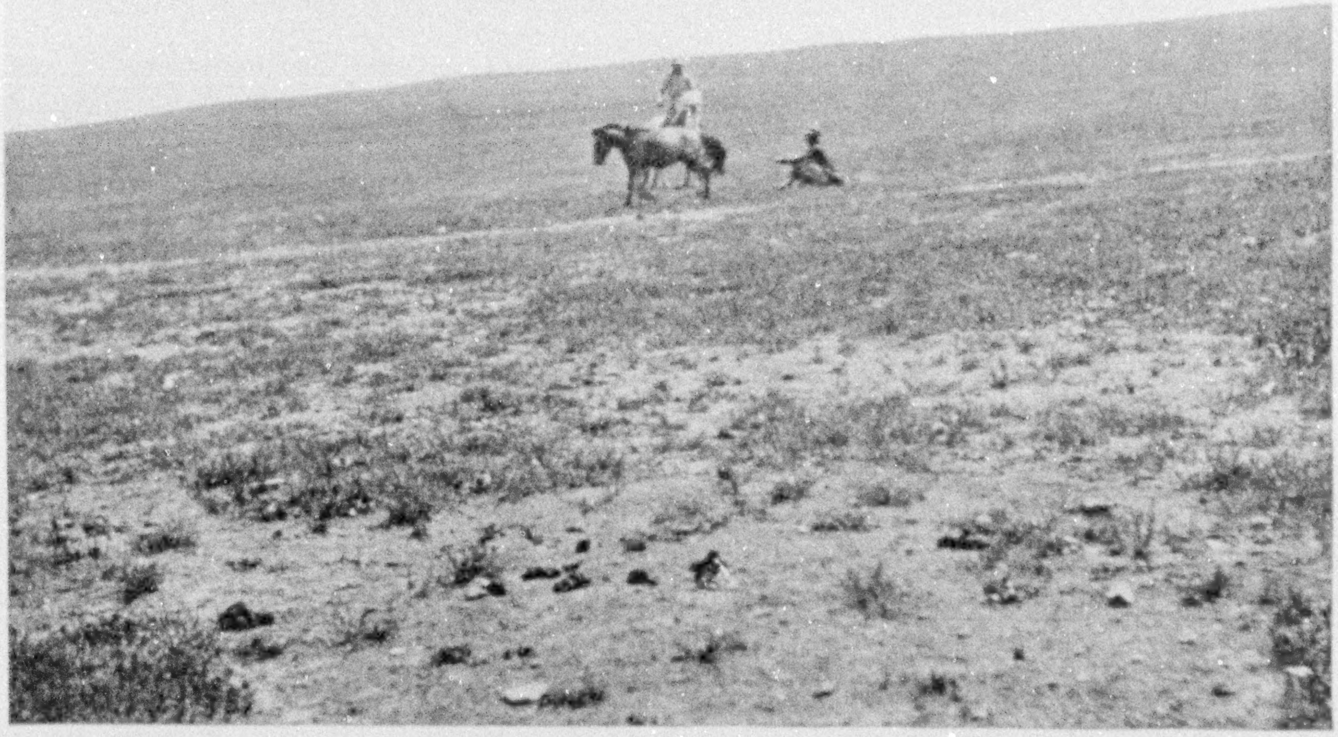
The riders carry long birch poles, like fishing-rods. Mongol ponies are exported in great numbers to China. The mares, which are easily distinguished by their flowing tails, are kept at home for breeding purposes.



Photograph by Luther Anderson

A MONGOL COWBOY

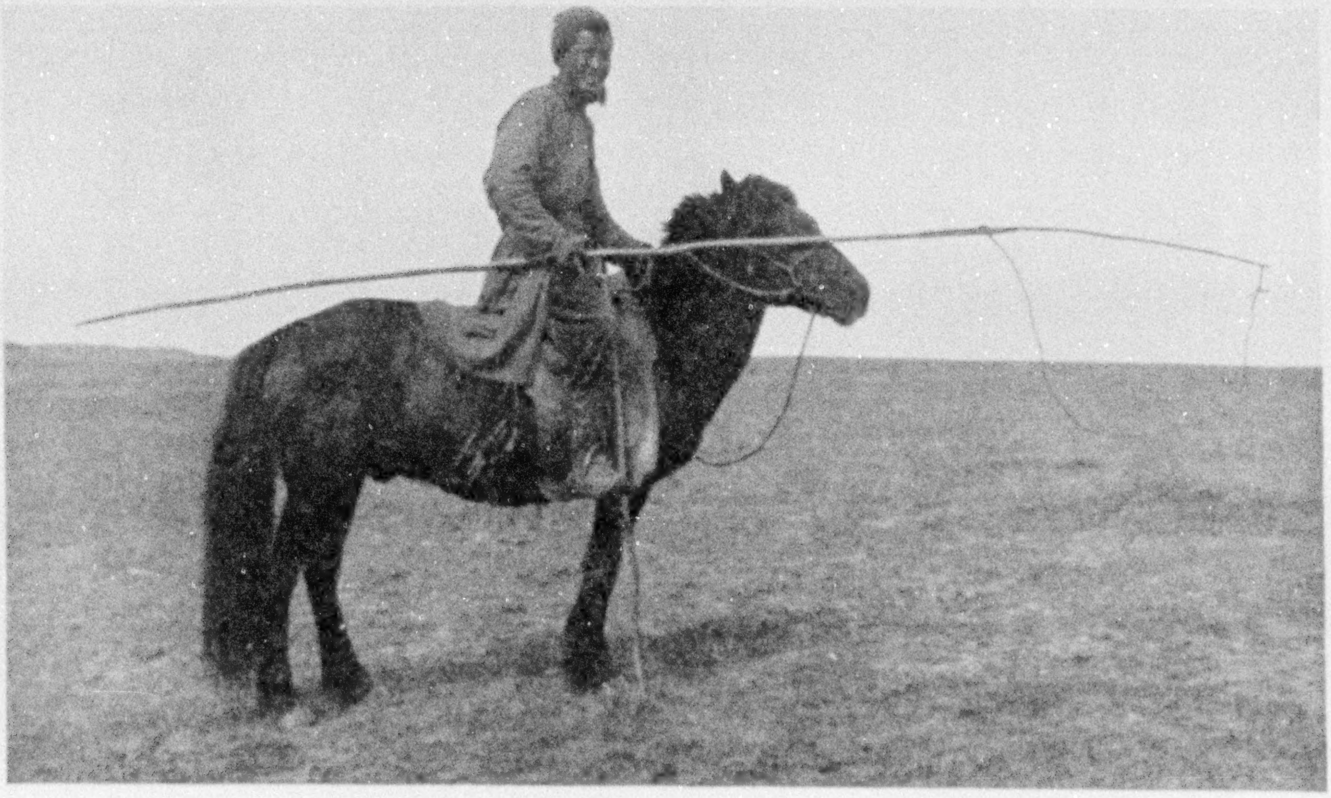
Expert horsemasters from childhood, both men and women are equally at home in the saddle. In fact, the Mongol so seldom walks that he develops an unsteady, rolling gait when ill luck forces him afoot.



Photograph by Adam Warwick

TAMING AN UNBROKEN PONY

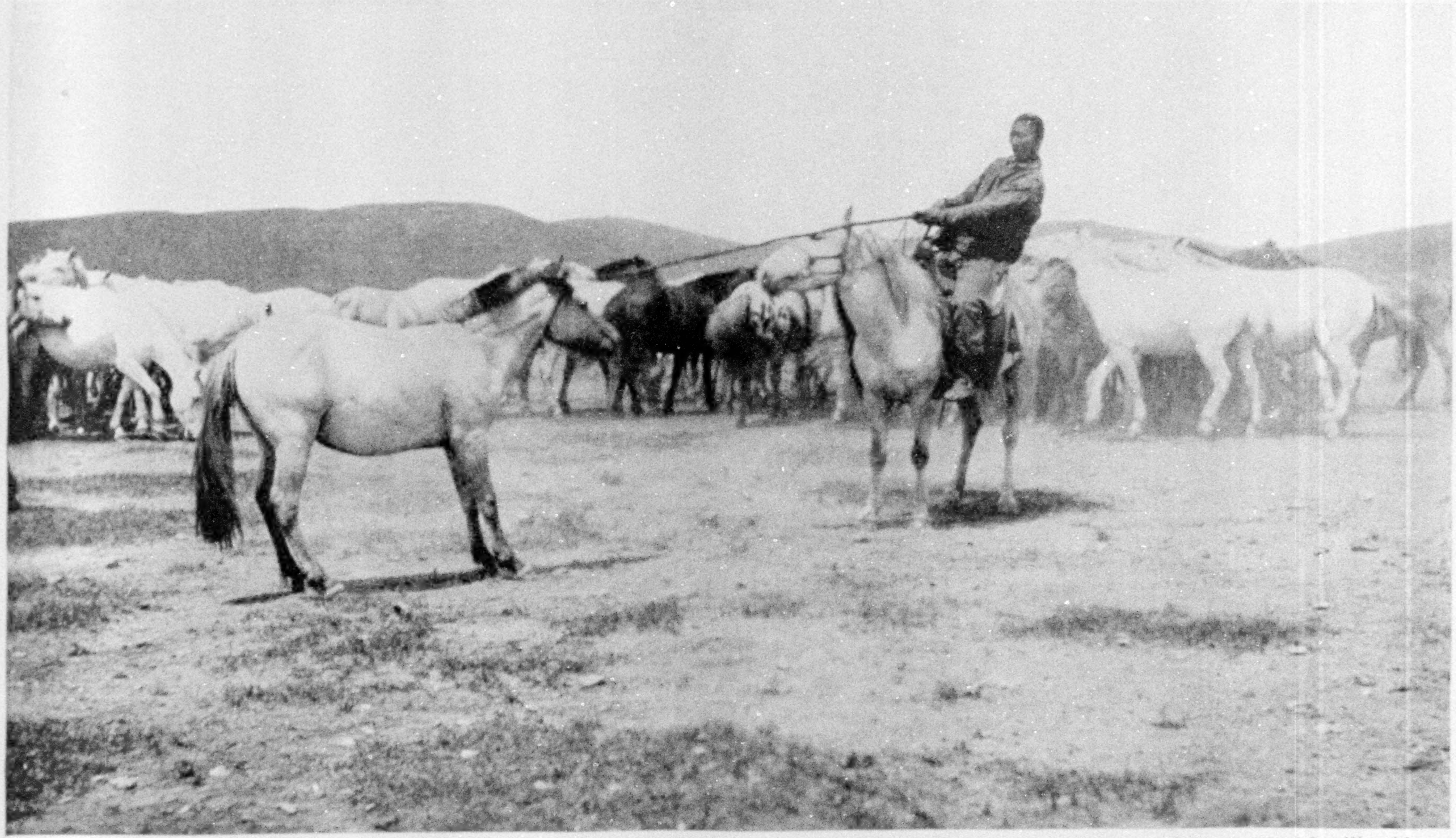
The man on the ground will, in a moment, seize the pony by the tail. The animal will start off at a run, dragging his captor behind him. The tamer slides over the grass in his soft felt boots until the pony is exhausted (see text, page 518).



Photograph by Ethan C. Le Munyon

A MONGOLIAN HORSEMAN

The pole with the slip-noose is used in place of the lariat and is almost as effective, as the rider will ride into a herd and "cut out" the horse he wants, drop the noose over his head, and soon subdue him.

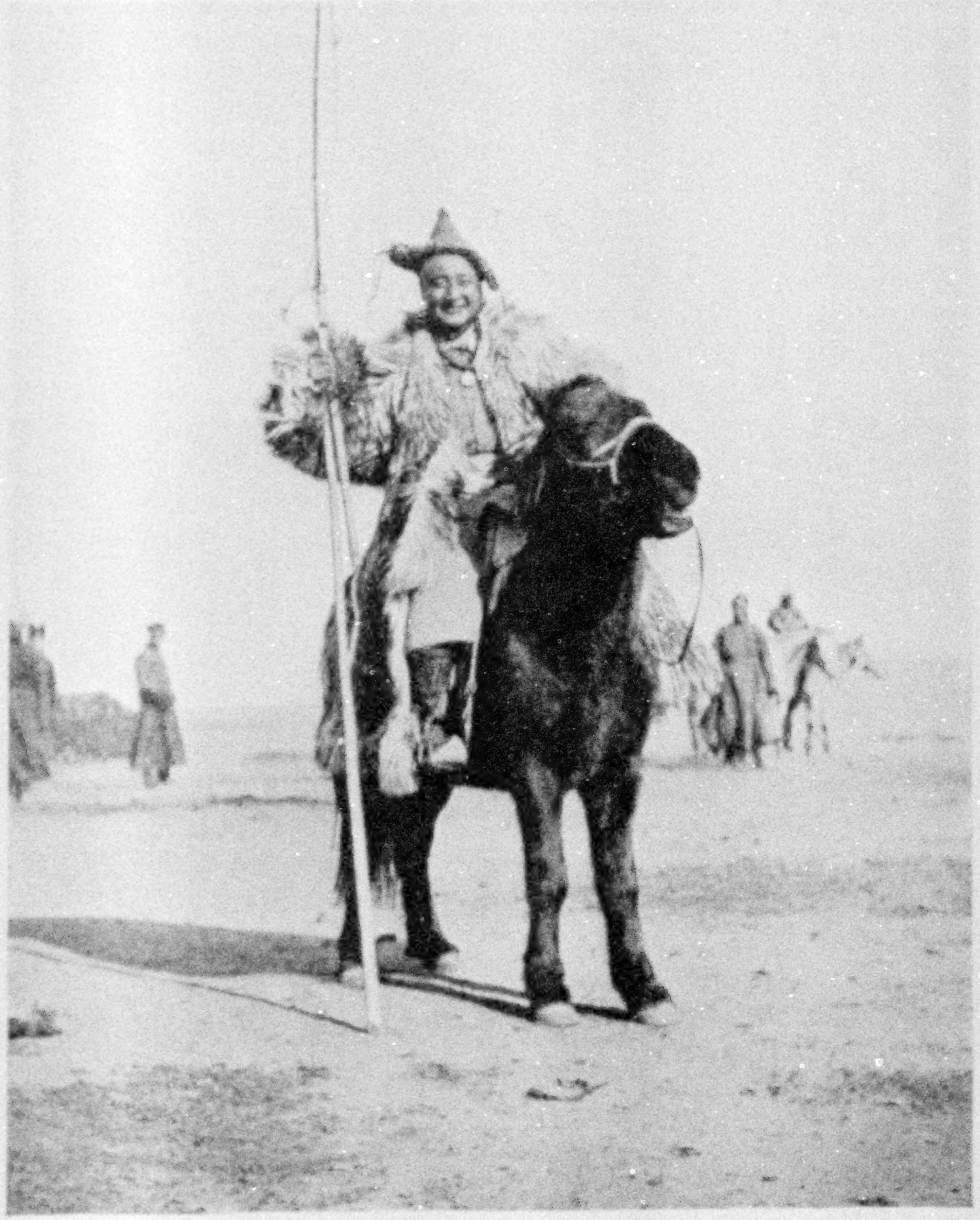


Photograph by Adam Warwick

LASSOING A MONGOL PONY

The native breed of horse is seldom more than thirteen hands high, but for endurance and cleverness it has few rivals. It is never a source of care to its owner, who provides neither food nor shelter. A long coat of hair in winter suffices for the latter, and when the snow covers the pasture land the little beast paws its way to the sparse remains of summer grass underneath.

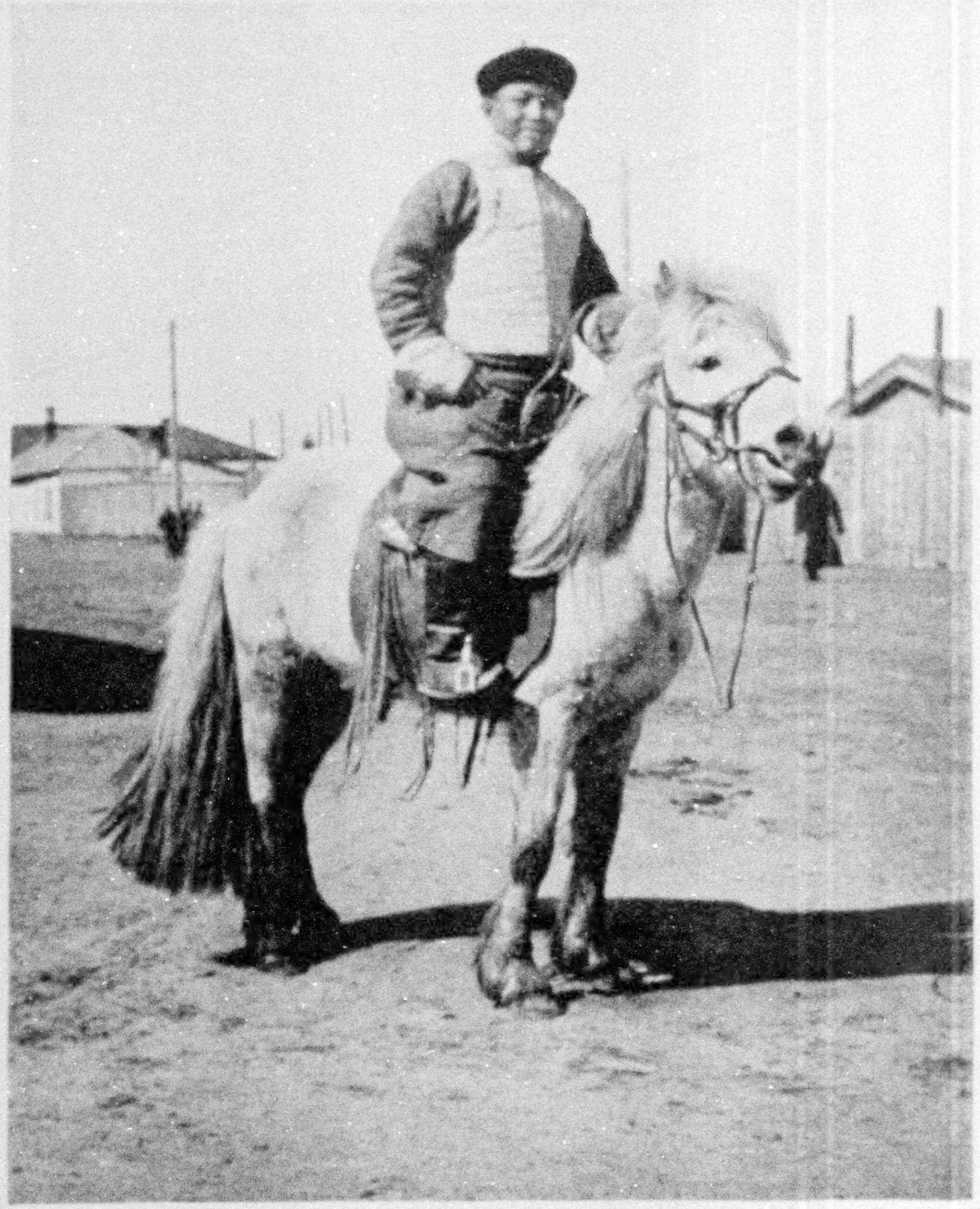
XUM



Photograph by Luther Anderson

A HARDY, SELF-RELIANT, HOSPITABLE MONGOL OF THE STEPPES

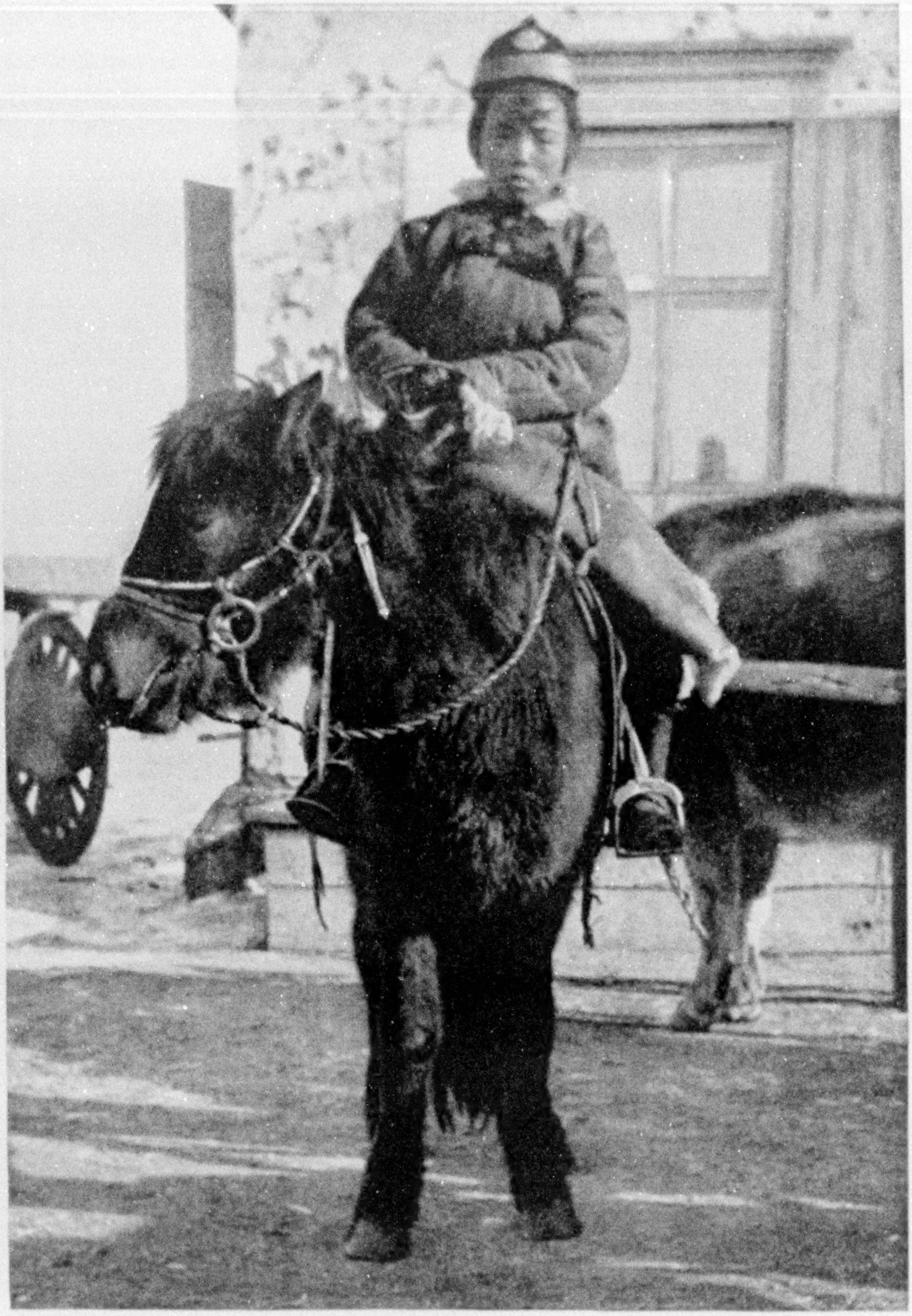
He cares not for wealth or power. His flocks and herds provide him a livelihood, and his temporary abiding place (usually for ten days at a time) is wherever he chooses to pitch his tent.



Photograph by Eugene Lee Stewart

A MONGOLIAN LAMA POSING FOR HIS PICTURE

The Lamas, and in fact nearly all Mongolian men, are glad to have their pictures taken, but it is a decidedly different story attempting to obtain photographs of the women.



Photograph by Eugene Lee Stewart

THE SON OF A HIGH MONGOLIAN OFFICIAL, WEARING HEAVILY PADDED WINTER CLOTHING

The Mongolians might be said to be born on horseback. Women ride as well as men. In the races, the children jockeys ride without saddles, but carry handkerchiefs to wipe the dust from their ponies' eyes and nostrils.

Photograph by Eugene Lee Stewart

A MONGOLIAN OF THE OFFICIAL CLASS AND HIS NEPHEW, MOUNTED ON A MONGOLIAN PONY

from the treasury of the monastery. Two choirs of singers in bright robes kneel on either side of the broad entrance and chant a welcome.

Soon the feast begins. A cup made of the precious "zabia" wood, which will make water boil and has the power to detect poison, is placed before each distinguished visitor, with smaller cups for the "airak" and "koumiss"—liquors made from fermented milk.

The principal meat dish is mutton. Sheep are served whole on large platters, the four legs arranged around the rump, the skull on top.

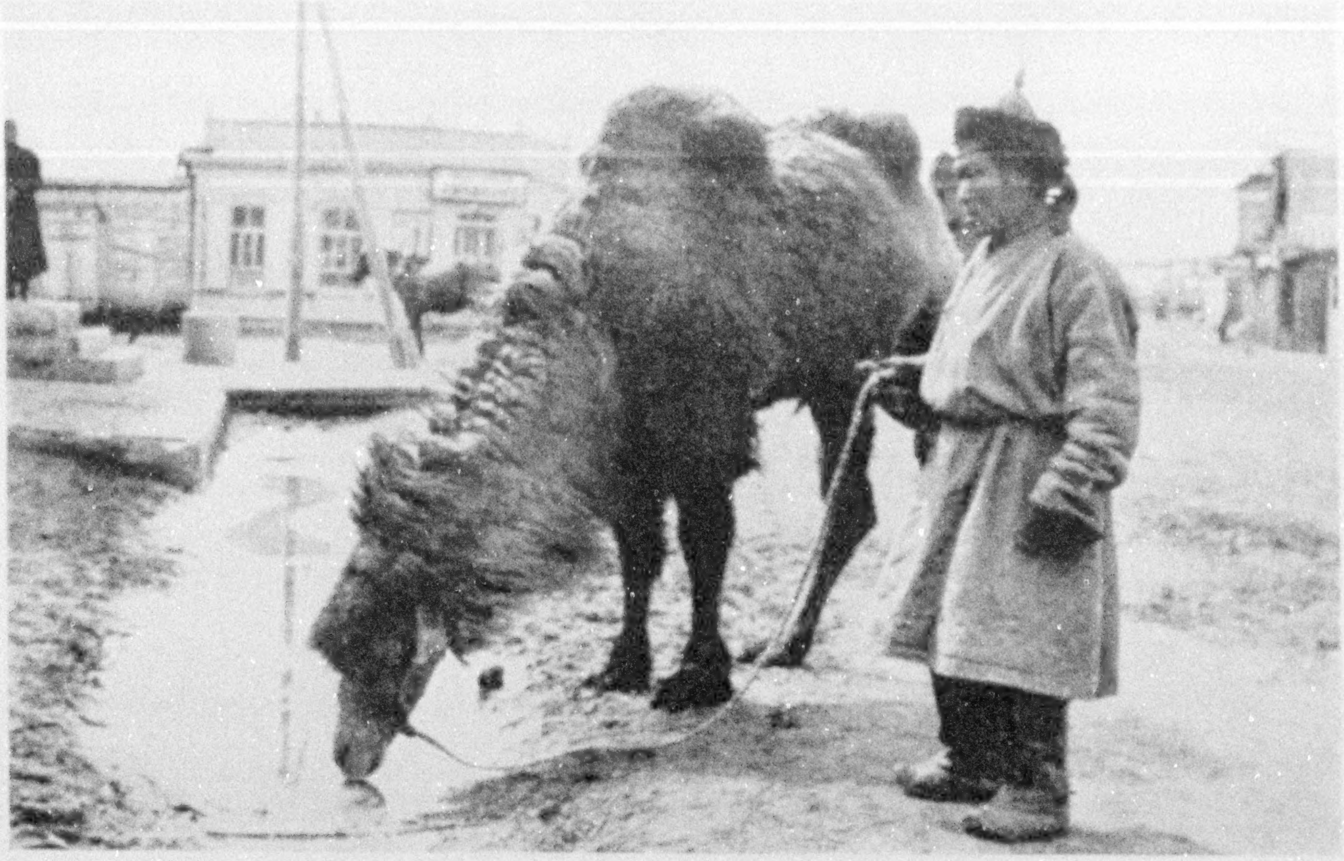
As a kneeling attendant passes each dish to a guest, the Lama host makes a cross on the skull, which is then taken away. A second serving Lama, acting as butler for the occasion, then cuts up the meat. The rumps and tails are given to those whom the monks especially delight to honor.

This curious custom originates from the fact that, a sheep having but one tail, the presentation of this delicacy to a person necessitates the slaying of a sheep especially for him, and it must also be a good one, for none but a fat sheep has a tail fit to be seen.

"TABLE MANNERS" IN MONGOLIA

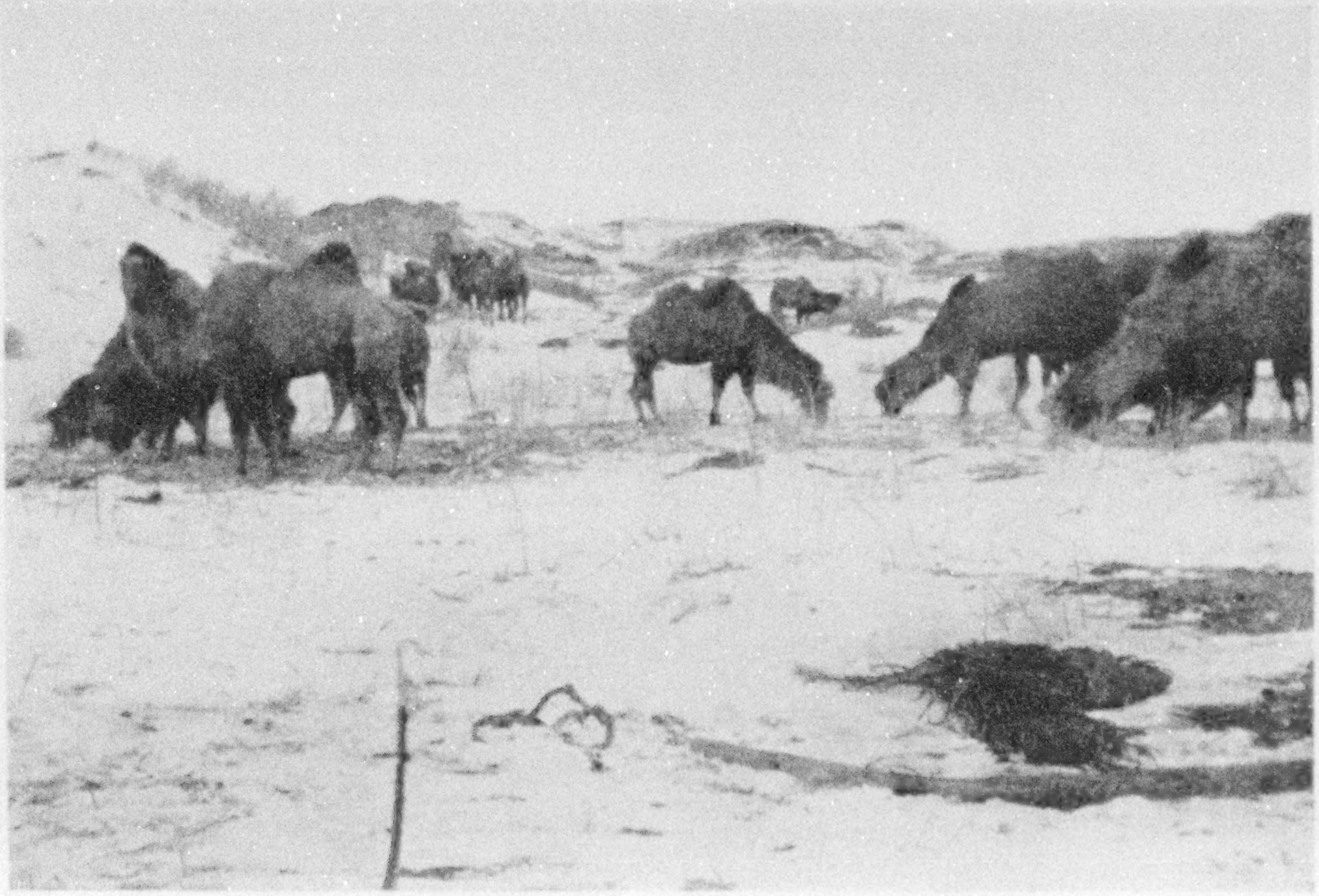
To the foreigner a Mongol feast is a doubtful pleasure. He dislikes the idea that the unfortunate sheep have been slaughtered in the barbarous native way (said to preserve the flavor), by ripping open their bellies, after which operation the butcher puts his hand into the viscera and snaps the aorta. It is difficult also

XUM



A MONGOLIAN CAMEL-DRIVER AND HIS CHARGE

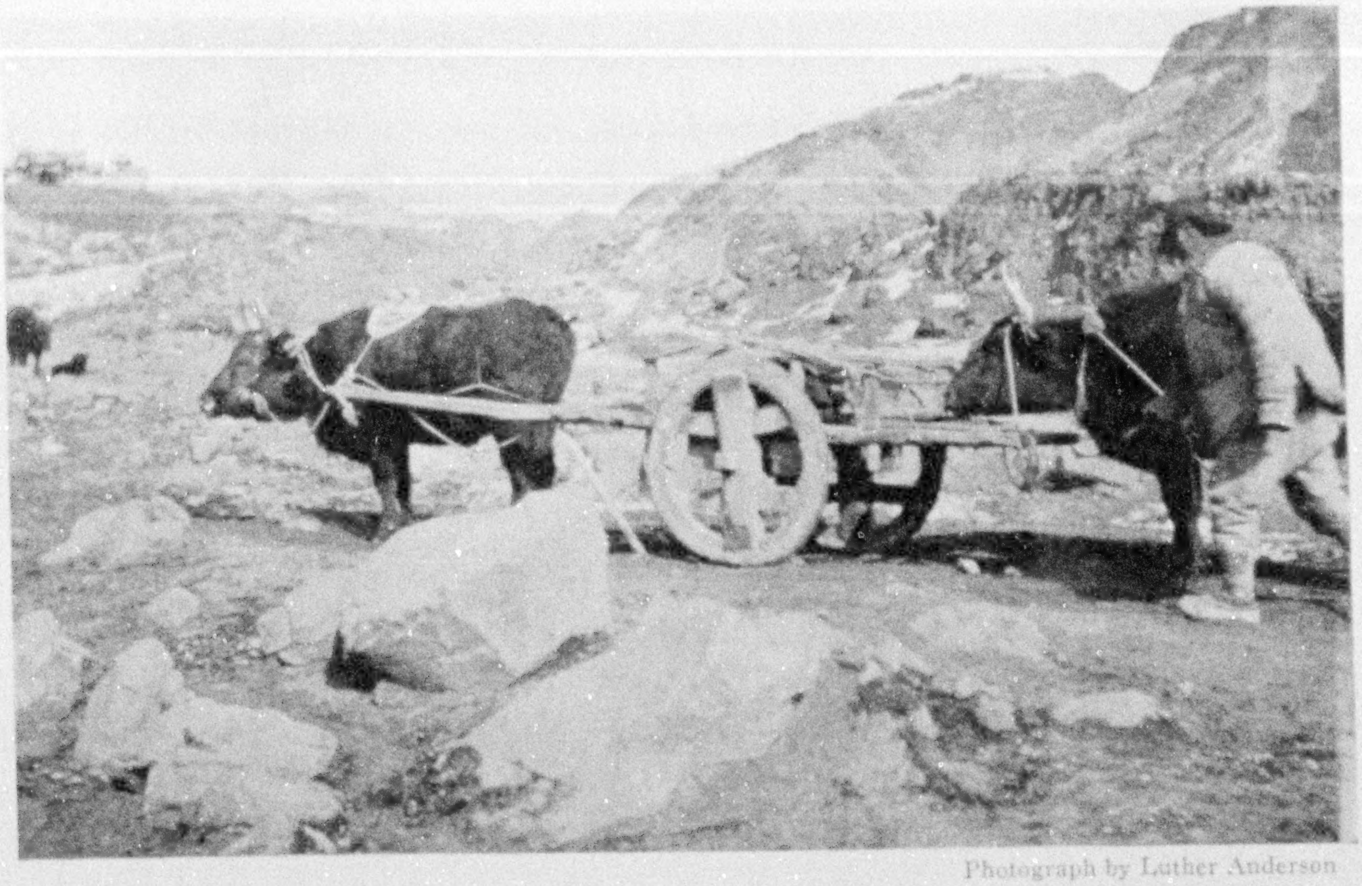
It is a tradition among the People of the Wilderness that the breath of the camel is so poisonous as to shorten the life of the driver.



Photographs by Eugene Lee Stewart

MONGOLIAN CAMELS FORAGING THROUGH THE SNOW AND OFF THE TOPS OF TREES

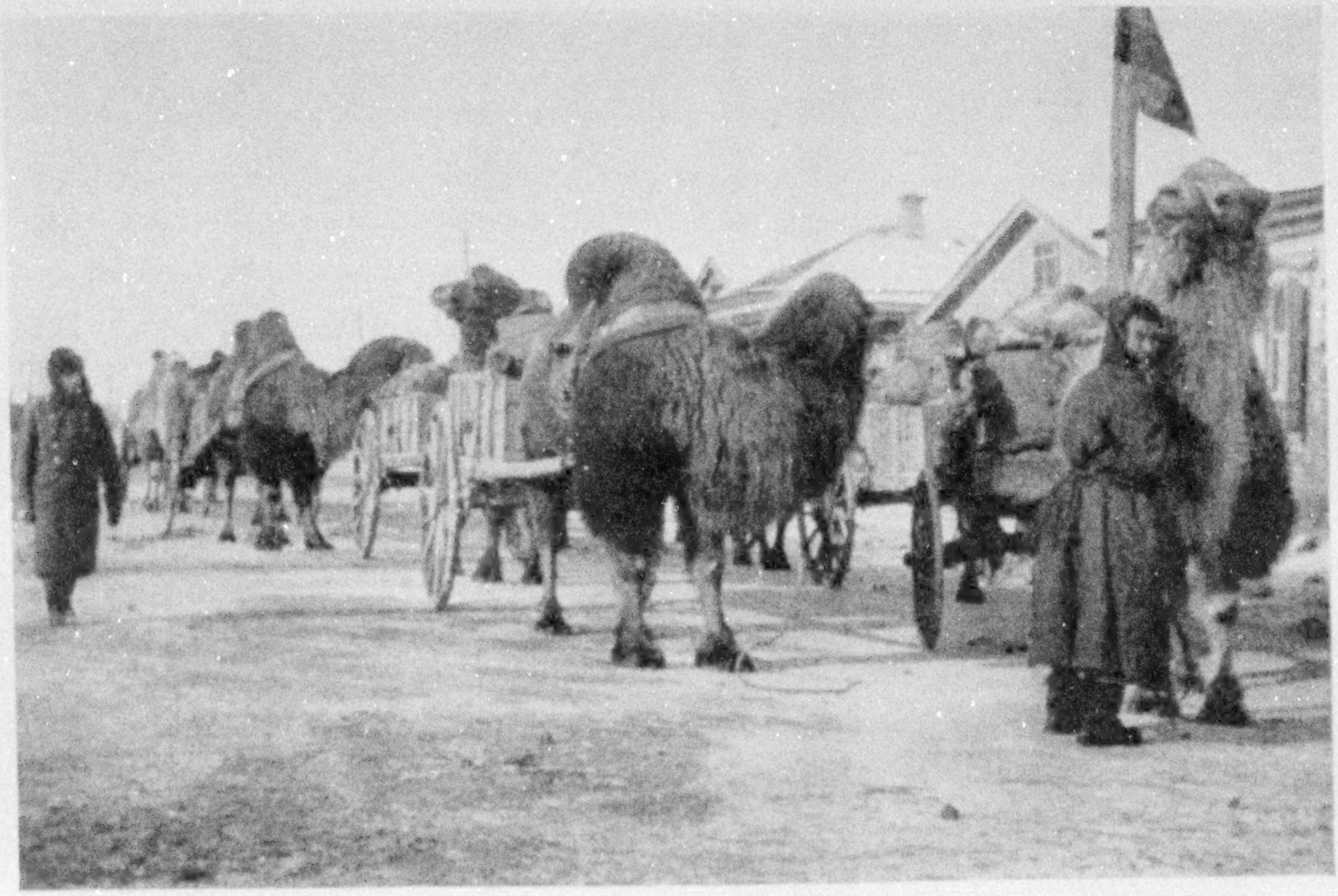
It will be noted that the Mongolian species is the Bactrian, with two humps, whereas the dromedary, or one-hump animal, is found in Arabia.



Photograph by Luther Anderson

A MONGOL OX CART

This is the same type of cart which was used by Genghiz Khan to transport his army supplies seven centuries ago.

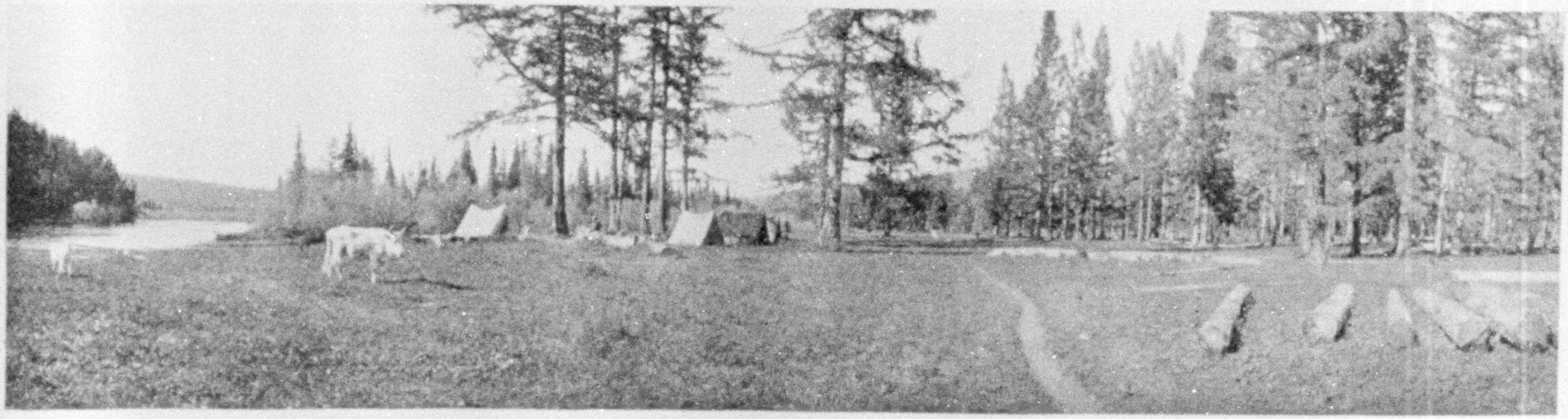


Photograph by Eugene Lee Stewart

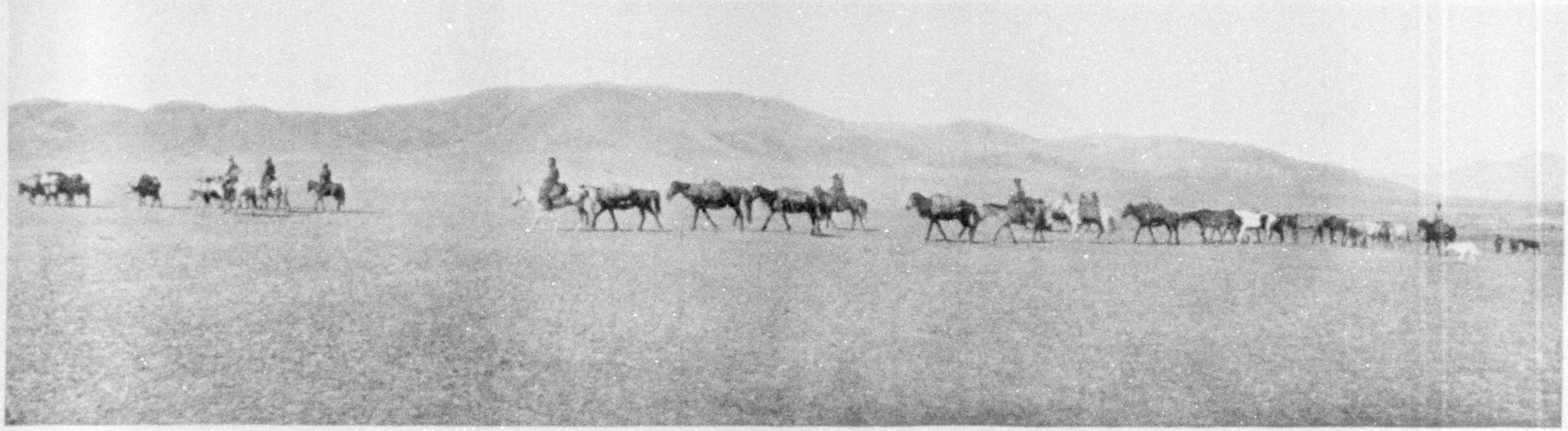
A CARAVAN STARTING FROM HAILAR TO URGA

These caravans number from ten to fifty camels. They carry blankets, clothing, tobacco, and other commodities to the native population of Urga and usually return empty.

XUM



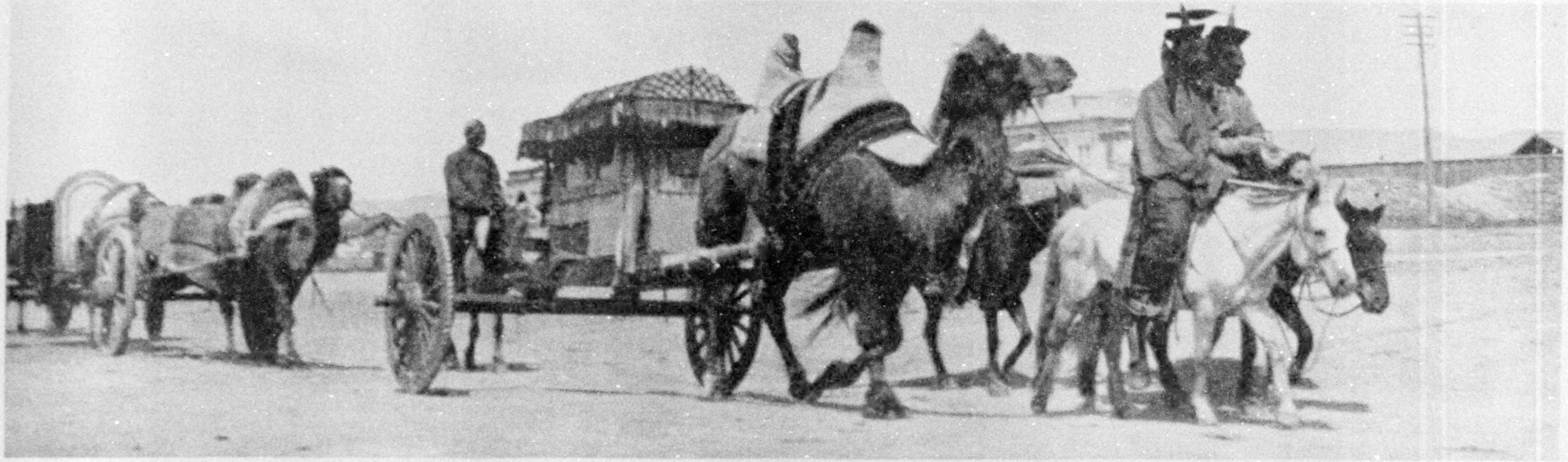
THE FOREST ZONE OF OUTER MONGOLIA



Photographs by Douglas Carruthers

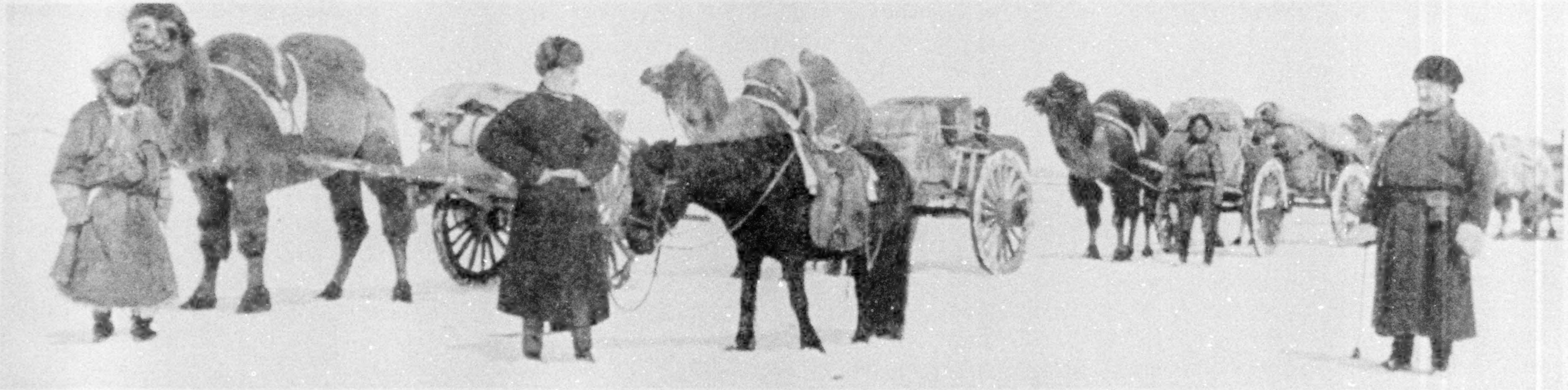
JOURNEYING TOWARD MONGOLIA'S PASTURE LANDS

The most fertile portion of Mongolia lies to the north of the Gobi Desert, along the Siberian frontier.



Photograph by Adam Warwick

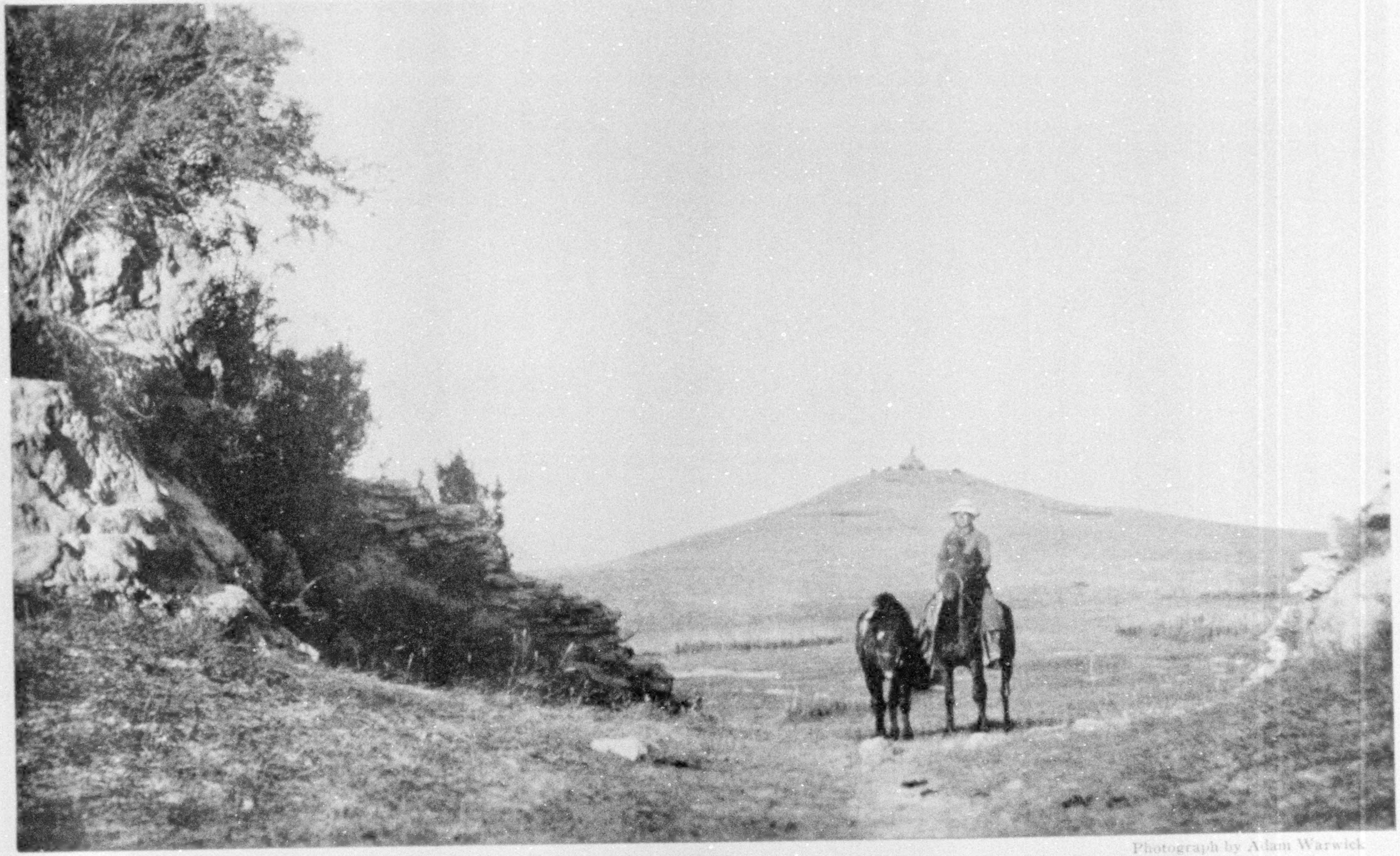
WEALTHY MONGOLIANS TRAVEL TO THE FAIRS IN CAMEL-CARTS WITH AN IMPRESSIVE TRAIN OF OUTRIDERS (SEE TEXT, PAGE 525)



Photograph by Eugene Lee Stewart

RUSSIANS SUPERVISING THE DEPARTURE OF A CARAVAN FROM HAILAR TO URGA

The two men with the fur caps are the owners of the caravan. As soon as it is under way, they will return to their homes in town, and at the end of a week or ten days will mount their ponies and overtake the caravan, in order to be present when it arrives at the Mongolian capital.

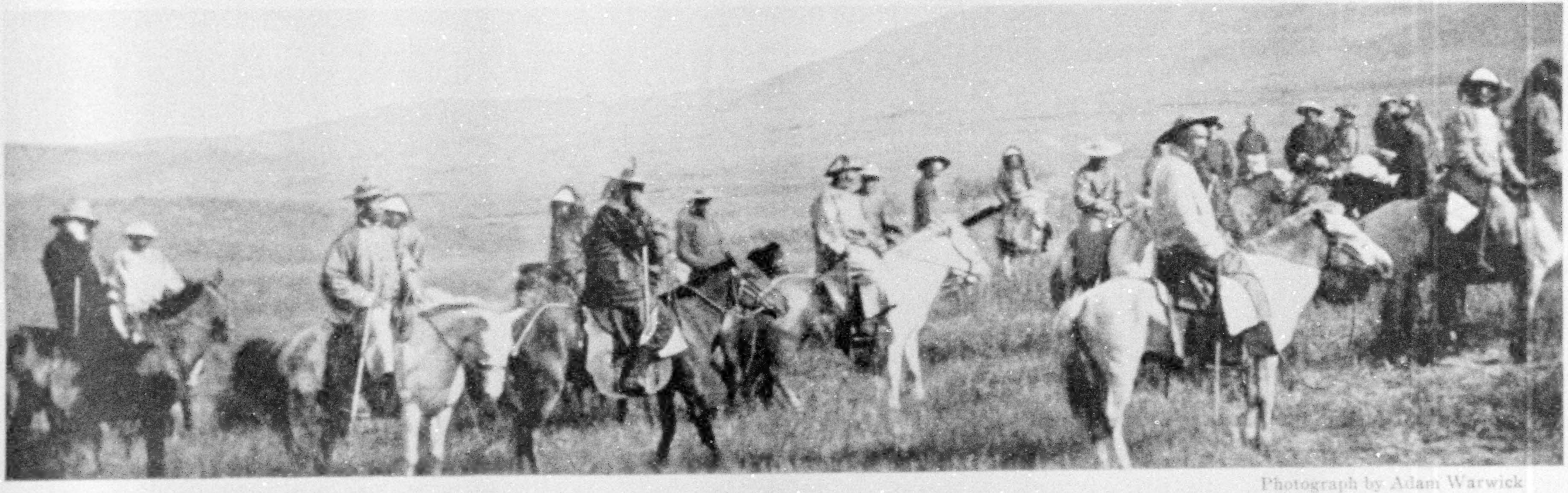


Photograph by Adam Warwick

A MONGOLIAN OBO ON THE DISTANT HORIZON

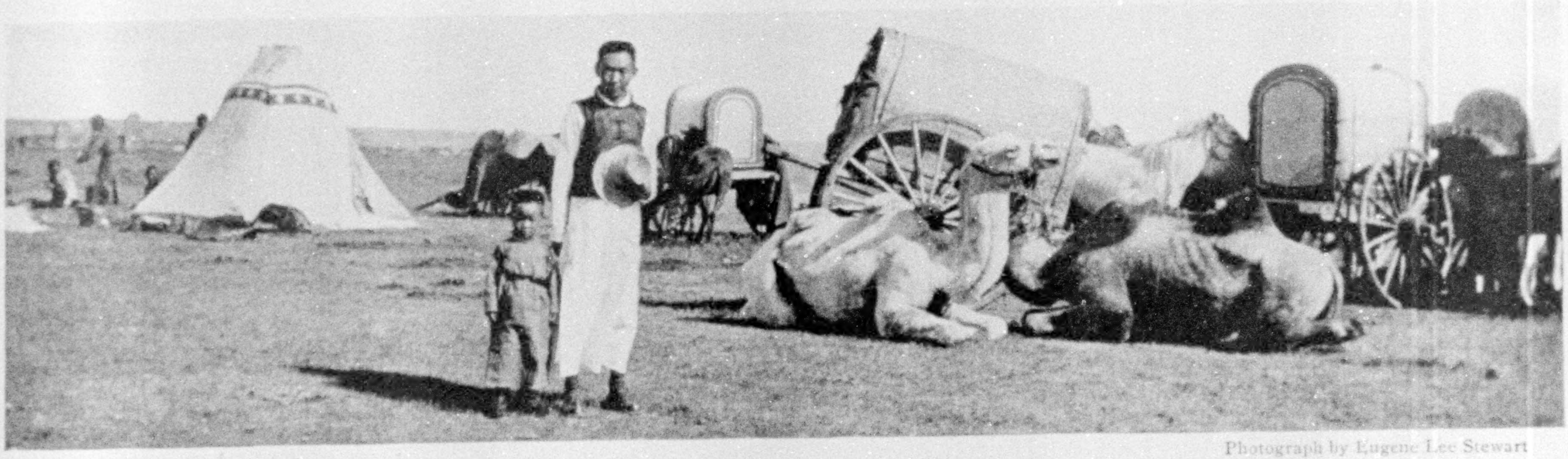
These elevations are landmarks in all parts of Mongolia. They represent the ancient totems to the nature spirits (see also illustrations on pages 542 and 543).

XUM



Photograph by Adam Warwick

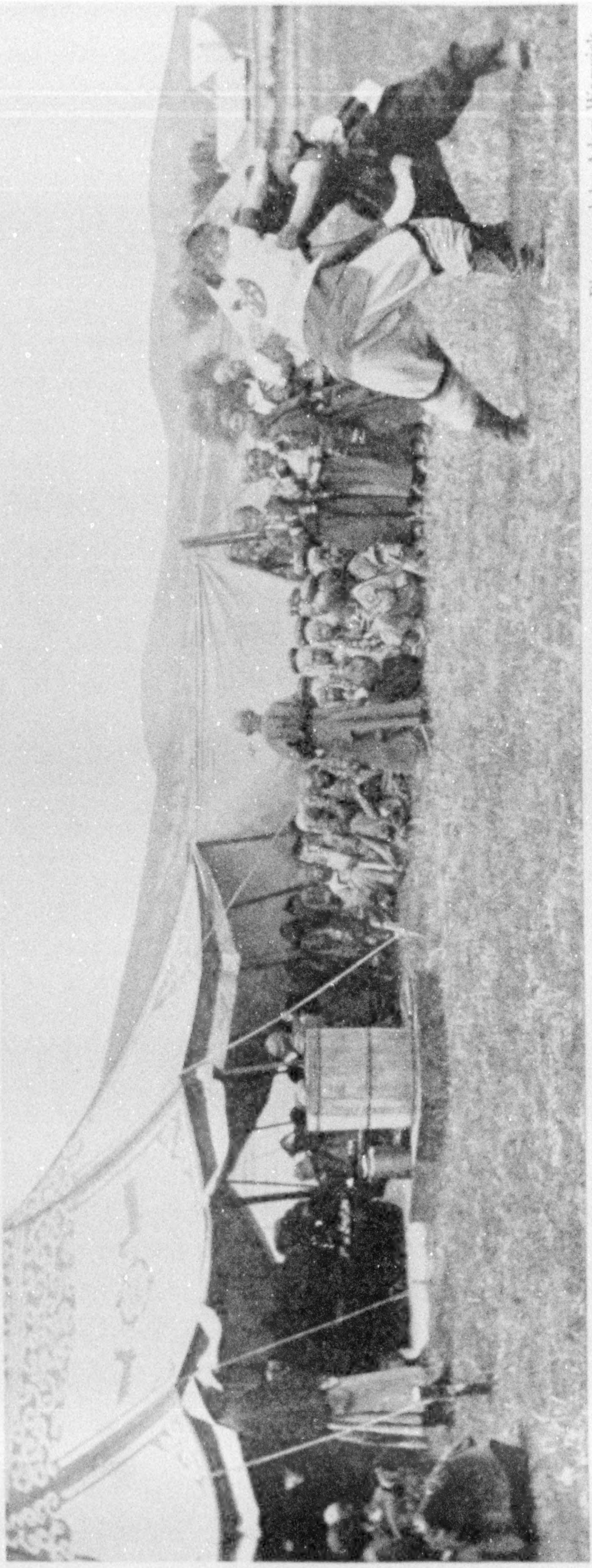
A COMPANY OF MONGOLIANS STARTING ACROSS THE STEPPE TO THE OBO, OR SACRED MOUNT (SEE TEXT, PAGE 526)



Photograph by Eugene Lee Stewart

A MONGOLIAN LAMA CAMP

The priests are conducting religious services near by and will remain camped here for several days. A Mongolian school teacher and his nephew are seen in the foreground. The camels have been recently clipped.



Photograph by Adam Warwick

A WRESTLING BOUT AT A MONGOL FESTIVAL

At the conclusion of the match, which consists of three rounds, the winner will approach the grandstand tent in kangaroo-like leaps, as etiquette requires. He will kneel before the Lama, who will bestow upon him a robe of silk, an embossed silver cup, or an honorary scarf.

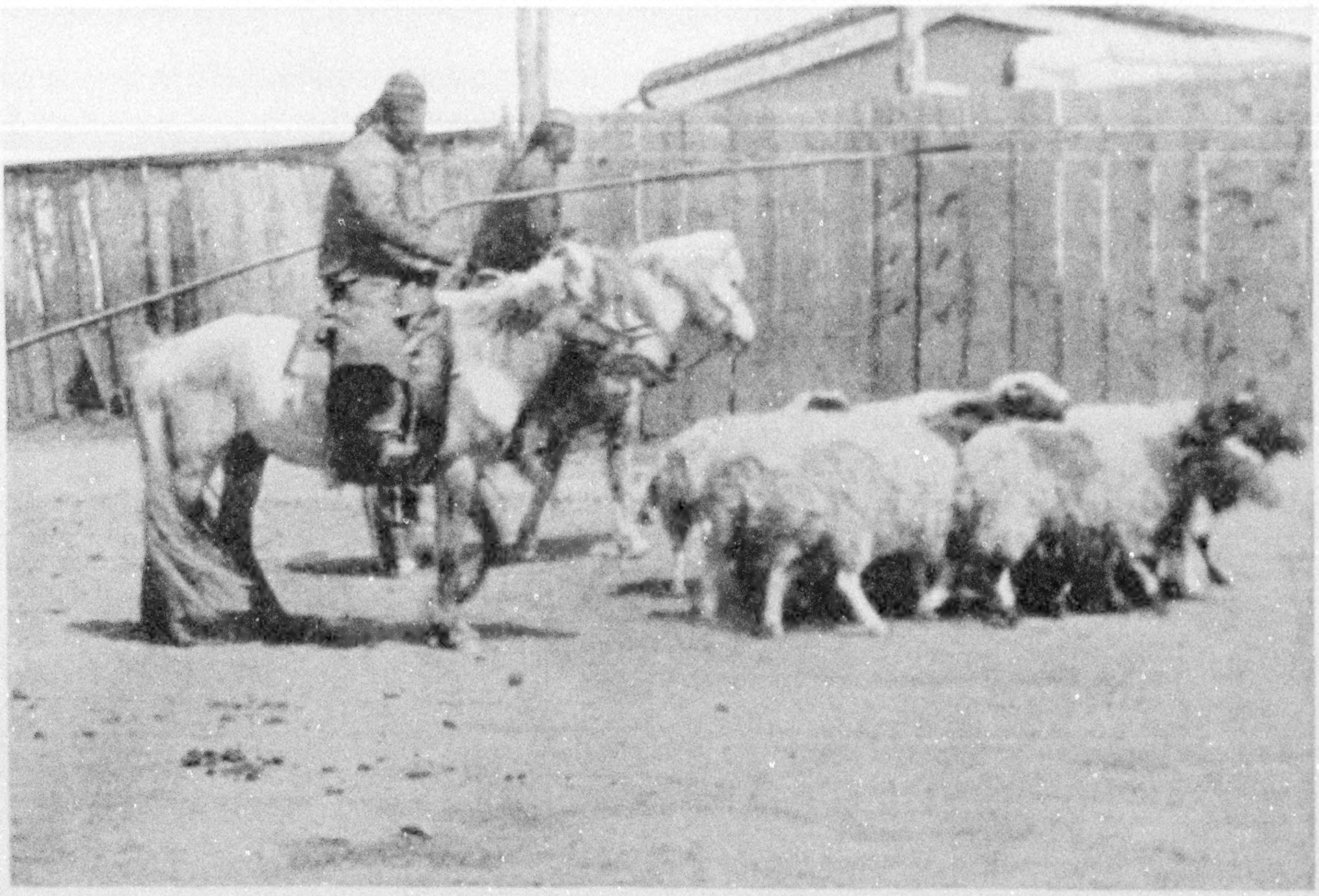
to eat comfortably, having to attack, with only the assistance of a knife, a great expanse of fat mutton spread on a brass dish nearly two feet in diameter.

Practice, however, makes Mongols expert, and in an incredibly short time each native has gobbled his share, seizing the piece of meat in his left hand and cutting it off close to his lips, while the knife flashes past so close to his face that, but for his short nose, accidents would certainly happen.

After all have gorged themselves and grown cheery with copious drafts of airak, hosts and guests mingle with the crowd in the meadow for the "fun of the fair." Many gather round a story-teller, who recites a legend drawn from the rich Mongolian folklore, some historical incident connected with the Great Khan or some quaint fairy tale inspired by the mystery of the steppes.

A MONGOLIAN WRESTLING BOUT

The majority hasten to see the wrestlers (see illustration on this page). Dressed in a costume with stiff vest and short skirt, not unlike the garb of a Roman soldier, two champions face each other in the center of an open space. One is obviously a horseman, to judge by his



Photograph by Eugene Lee Stewart

MONGOLIANS BRINGING SIBERIAN SHEEP TO MARKET

The "shepherd's crook" is the familiar long pole with a noose at the end (see also illustrations on pages 528 and 529).

bowed legs. His length of arm and breadth of chest show him to be a redoubtable opponent. The adversary is a gigantic Lama belonging to the "tsang" (community of the Living Buddha) of the neighborhood. Three rounds constitute the match, and according to the rules neither wrestler may grip the other, but each must try to throw his opponent by laying hold of his belt.

The first bout is adjudged to the Lama amid great enthusiasm; the second goes to the horseman, and the third, which the crowd watches in a fever of excitement, is also won by him after a hard struggle.

Then the proud champion, much cheered, rises to his full height, expands his mighty chest, and approaches the entrance to the grand-stand tent in big jumps, as etiquette requires. Here he kneels before the Lama, who distributes the prizes, and receives a reward—a roll of silk, an embossed silver cup, a "Khadak," or honorary scarf, or a few bricks of tea, which he raises above his head in token of thanks. After that he retires with more kangaroo leaps and another pair of athletes appears.

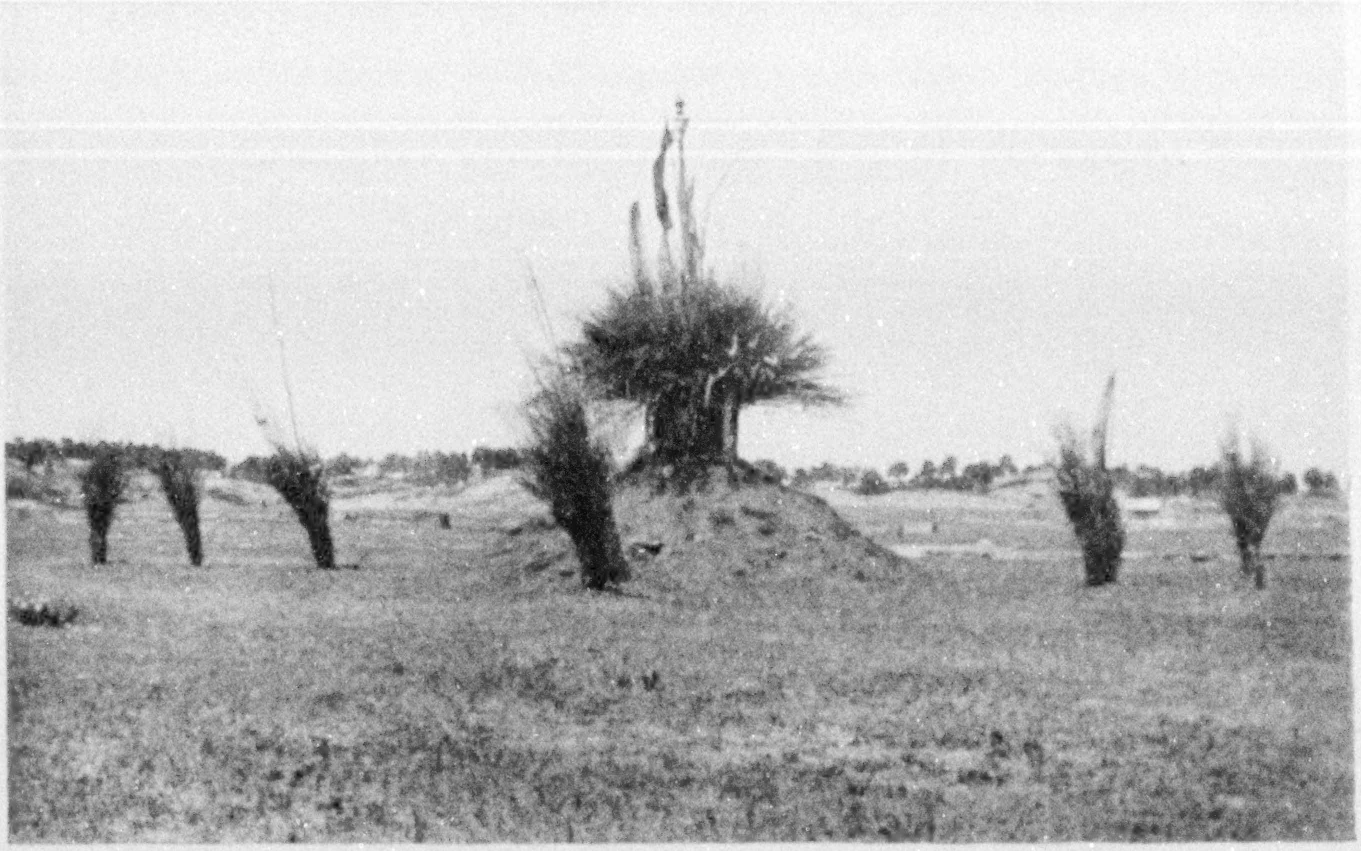
Apart from the amusements, there is also much visiting done at these fairs, which afford almost the only opportunities that neighbors, who live miles apart, have of becoming acquainted with one another. This applies especially to the womenfolk, whose lives of household drudgery are dull and lonely, while the men are away on the steppes rounding up the herds.

COSTUMES OF MEN AND WOMEN ARE MUCH ALIKE

The festivals also afford them a coveted opportunity to show off their finery. The dress of both sexes is much alike, as far as shape is concerned. The main difference is that the men gird themselves with a belt, while the women allow their long garments to hang loose from shoulder to heel; hence the common word for woman in Mongol is "beltless."

The outer robe of both sexes is a wide, roomy coat, which reaches to the ground,

XUM



Photograph by Eugene Lee Stewart

A SPECIAL TYPE OF OBO USED WHEN LAMAS HOLD SERVICES FOR MONGOLIAN SOLDIERS (SEE ALSO ILLUSTRATION ON PAGE 543)

with sleeves so ample that the arms can be withdrawn from them and reintroduced without touching the buttons.

In this gown men and women are, for all practical purposes, inclosed in a little private tent from which only the head projects. It allows the wearer to dress and undress beneath it in perfect privacy, whether on horseback or surrounded by the crowded inmates of a full tent. Though on ordinary occasions wearing plain material, on high days and holidays the women don beautiful embroidered gowns often with quaint padded epaulettes.

MONGOLIAN WOMEN WEAR THEIR WEALTH ON THEIR HAIR

But the most remarkable features of Mongol costumes are the hair ornaments and head-dresses of the women (see illustrations, pages 525 and 526). Even a poor girl, once she marries, wears a profusion of silver ornaments on her head. The precise nature and shape of these varies with the tribes. One at least has a most ludicrous coiffure for its matrons, which projects so high that the cap, imperatively demanded by etiquette, is tied on above the ornaments quite clear of the head. Others adopt curtains of red corals or turquoise or strings of pearls reaching often to the waist.

When the wearers take their stand together in the picturesque veranda of some temple, the effect is most striking.

At the close of the festival, which may last two or three days, the crowds depart to their homes, sometimes hundreds of miles distant. A few must cross the Gobi Desert, that dreary stretch of sand and stones which taxes the endurance of man and beast, as mile after mile the weary camels tramp across a stretch of country where there are no tents, no wells, no inhabitants, through solitudes of sand and rocks.*

Alas for him who loses his way in a dust-storm here and wanders helplessly among the boulders, which in size, shape, color, and arrangement mock him with their resemblance to human habitations!

The more fortunate pleasure-seekers travel back across the steppes, where the noon mirages mock and beckon, where lakes glimmer and clouds on the far horizon give the illusion of mountain ranges, rendering unreal a world of beauty and of dread.

---

* See "A Trip Across the Gobi Desert by Motor Car," by Ethan C. de Munyon, in the NATIONAL GEOGRAPHIC MAGAZINE for May, 1913.

THE MONGOL TENT IS MADE OF FELT

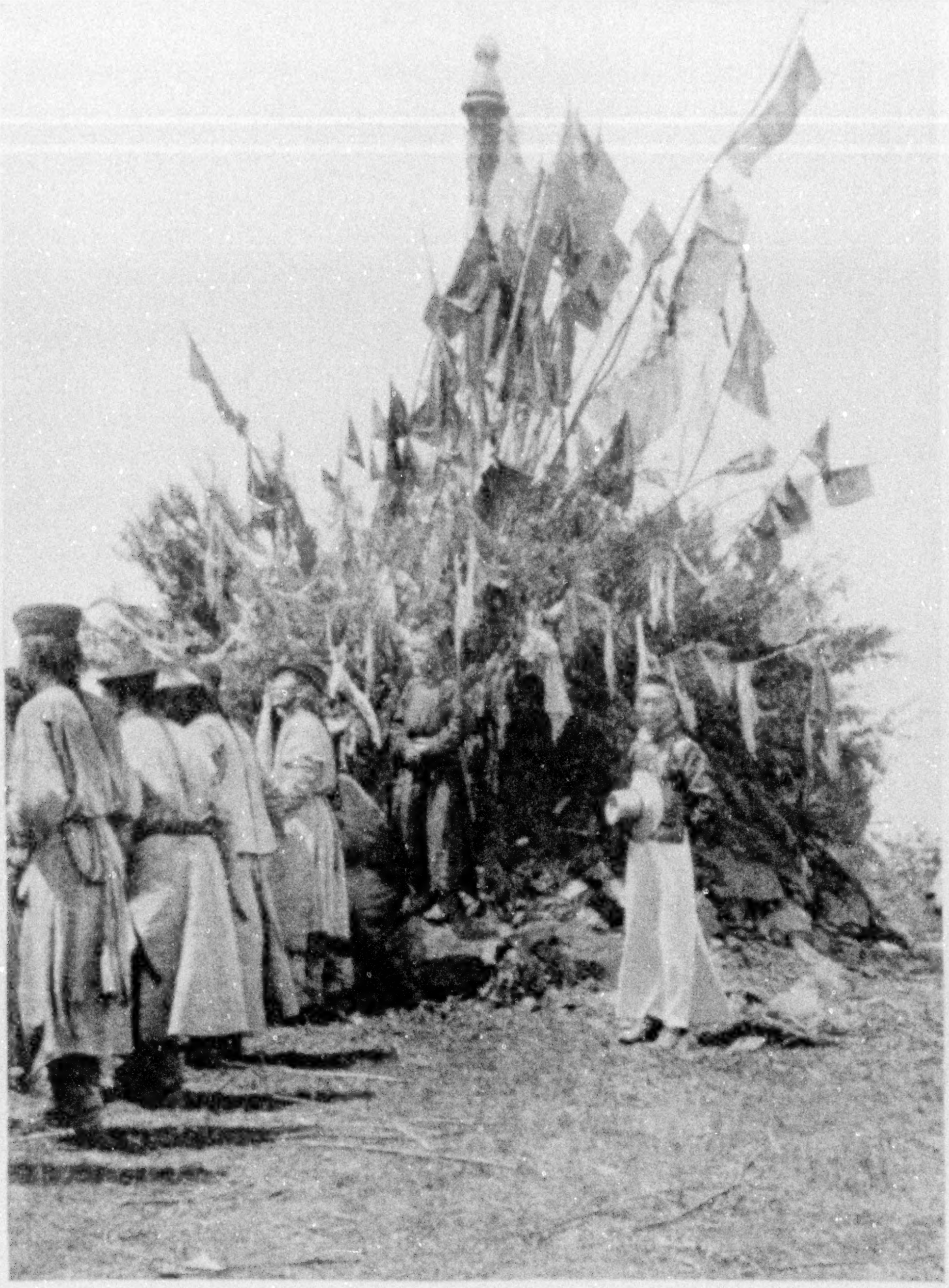
It is rare indeed that at nightfall the wanderers will find an inn, but the rule of the plain is that any traveler who demands hospitality at a tent must be lodged and fed, except in the rare cases where a tent is under prohibition because of sickness and it is therefore impossible to allow strangers to enter.

The lodging is nowhere luxurious, though the larger encampments—"ails," as they are called—have special guest tents with wooden doorways.

The average Mongol yurt is of the simplest construction (see illustration, page 550). Round a mud floor is built a trellis-work of laths about four feet high, from which a number of sticks radiate to a point at the top. These are covered with a single or double layer of felt, tied down firmly in winter by leather thongs, but raised in summer to admit the breeze.

The furnishing of the interior is equally simple. In the center is an iron fireplace, in which "argol" (dried cattle dung), the only fuel to be procured, is burned. The smoke finds its way through a hole in the roof, so much of it at least as does escape. Round the walls are a few chests and presses of the rudest Chinese manufacture and plain brass pots from Peking.

A few sheepskins and pieces of felt represent bed, sofa, and chair. Sometimes the refinements of life are represented by a basket, a pan, or a broken bowl in which half a dozen carefully-tended heads of garlic are growing.



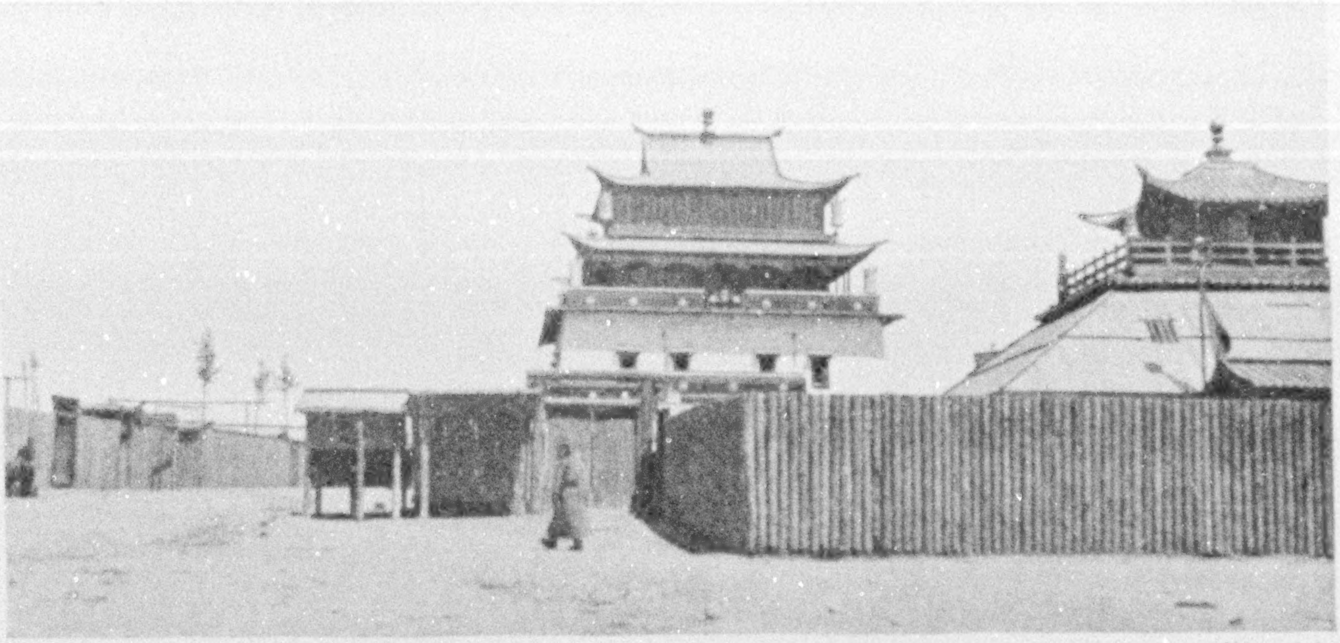
Photograph by Eugene Lee Stewart

MONGOLIAN LAMAS CONDUCTING AN OUTDOOR RELIGIOUS CEREMONY

The obo, or shrine, is built up of stones, dirt, and tree branches liberally punctuated with paper banners bearing prayers to the spirits. The meat eaten during the feasts which accompany these religious celebrations is blessed by the Lamas. The flesh which cannot be eaten is placed on the obo to appease the appetites of the spirits.

THE GUEST SLEEPS BESIDE THE LAMBS AND CALVES

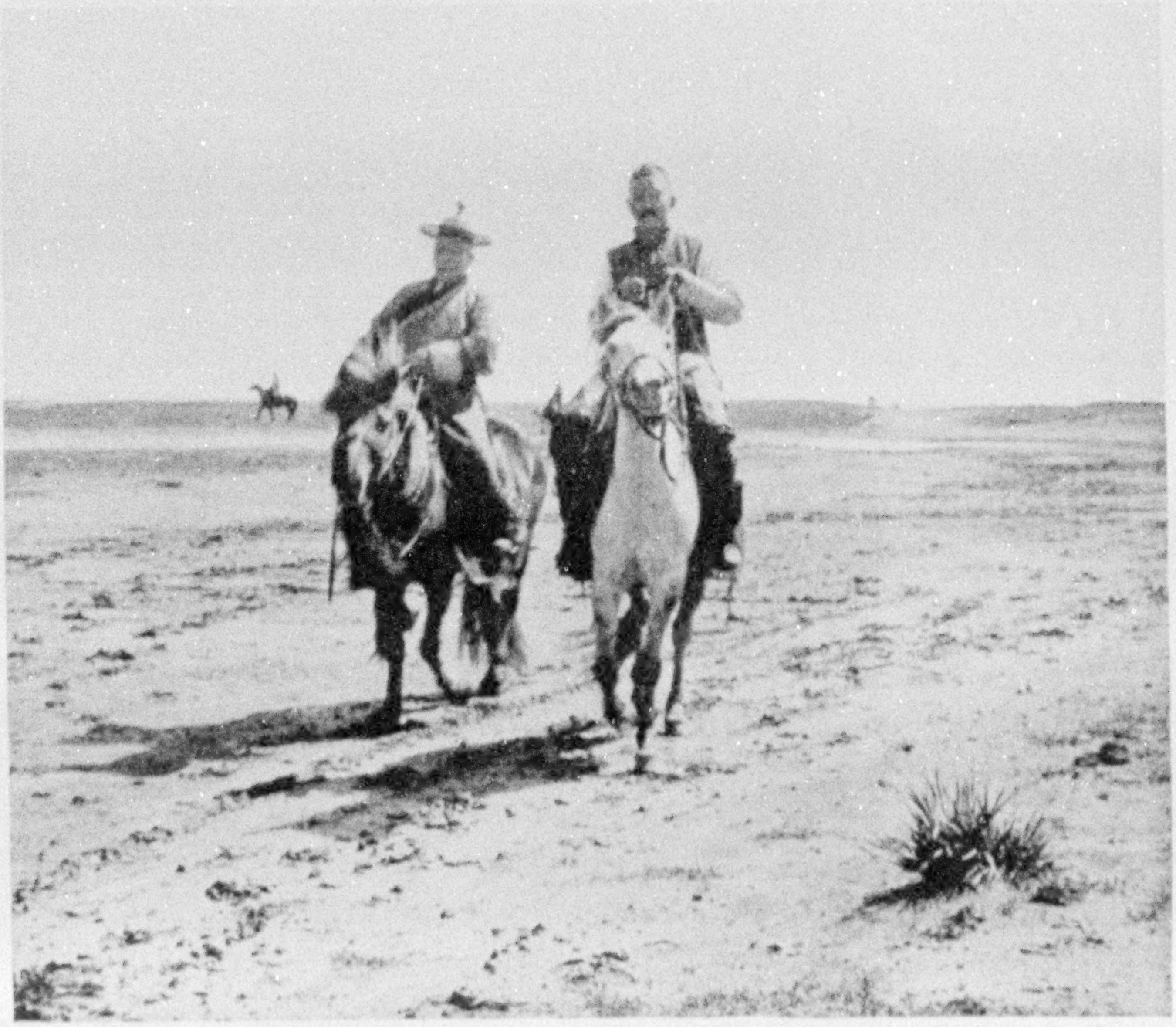
If travelers are not proud and are willing to lie down beside the lambs and calves of the household, even the poorest Mongol gives a cordial welcome and the



Photographs by Adam Warwick

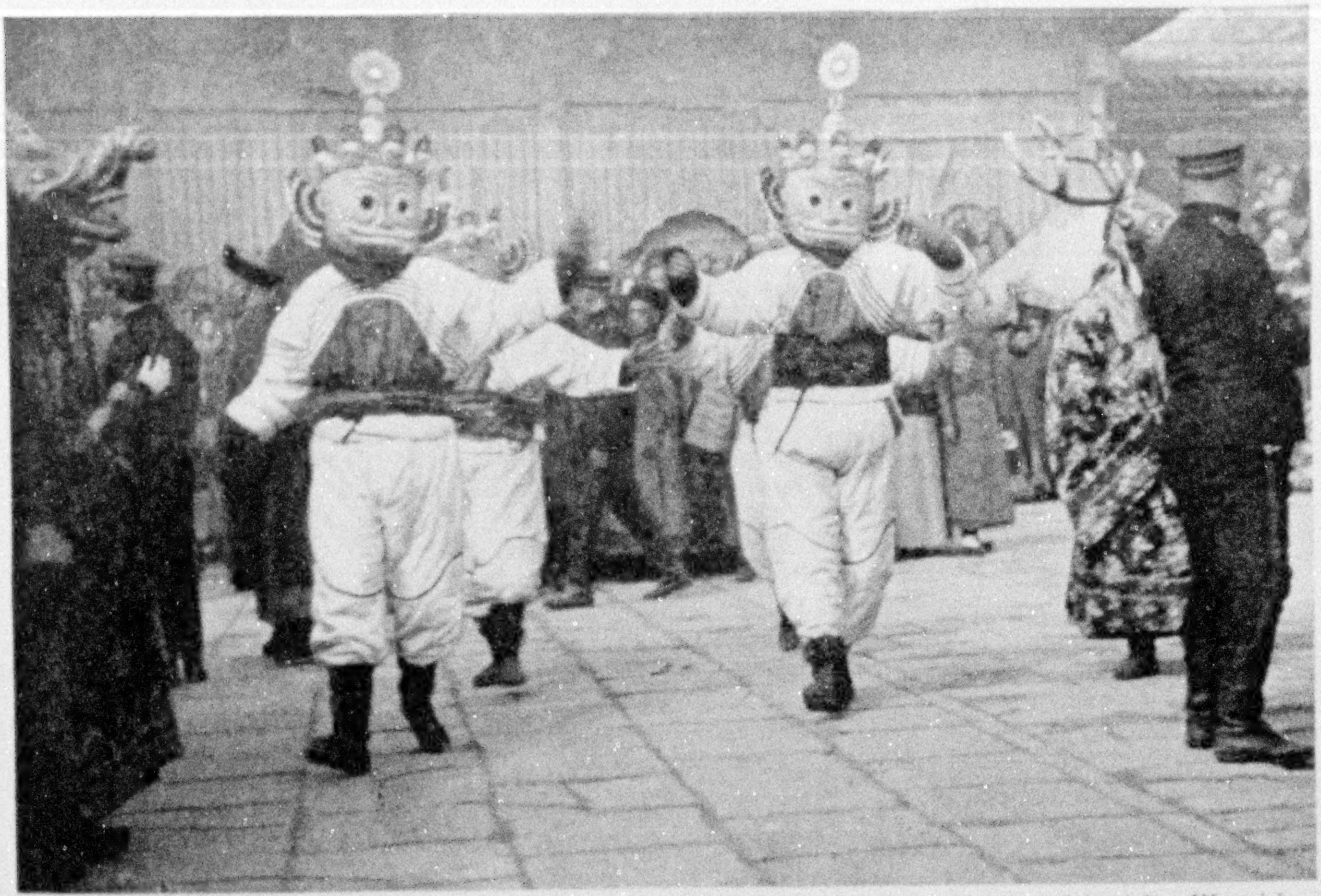
A TYPICAL MONGOLIAN MONASTERY

These establishments are not merely the centers of religion, but of amusement. The religion of the Mongols is one of terror—a revival of the morbid Indian cult of Siva.



Photograph by Eugene Lee Stewart

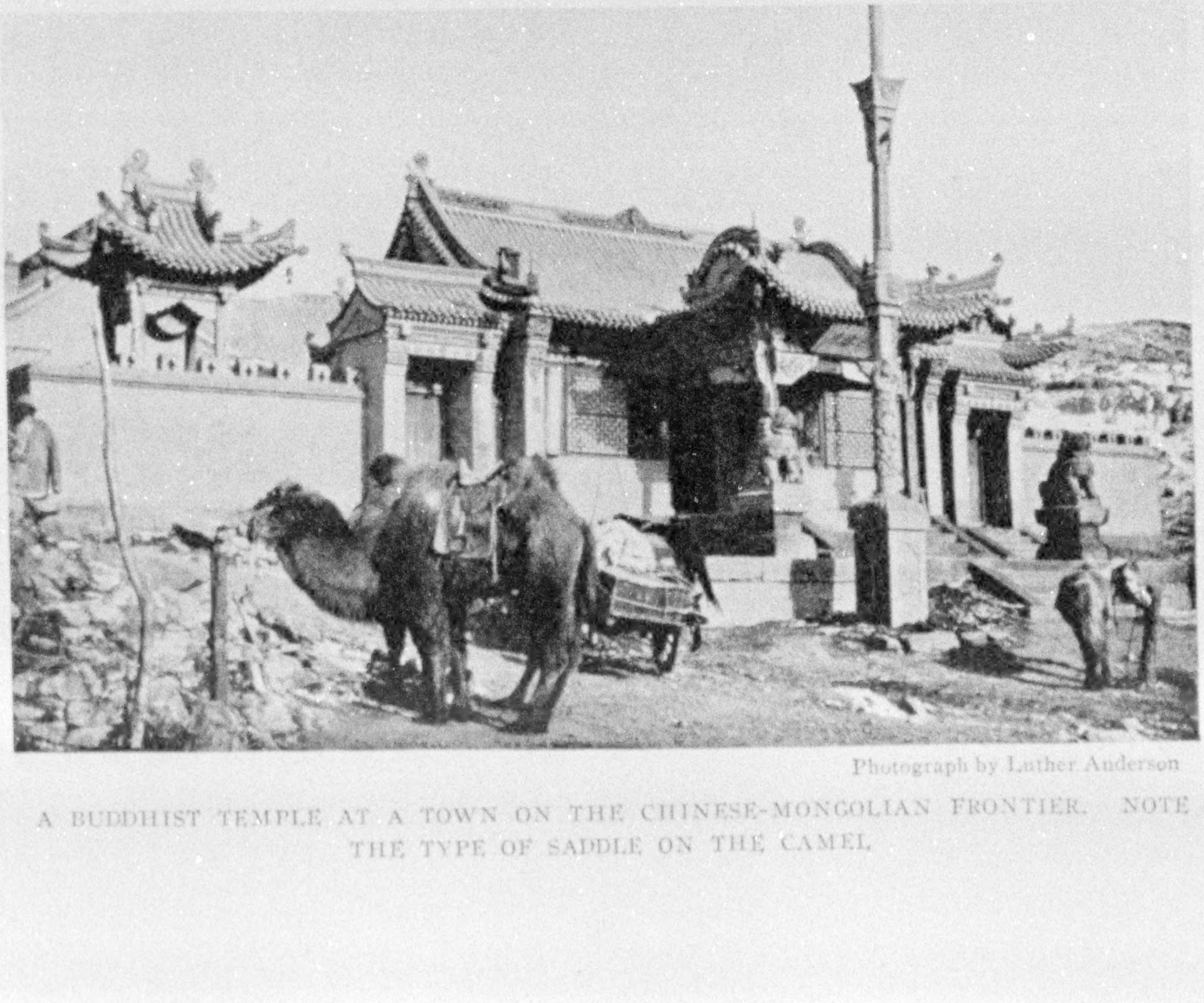
A CHIEF LAMA, IN YELLOW SILK ROBES AND BRASS HAT, AND A HIGH MONGOLIAN OFFICIAL RETURNING FROM RELIGIOUS SERVICES



Photograph by Adam Warwick

THE DEVIL DANCE, ONE OF THE GREATEST FESTIVALS OF THE LAMA CHURCH

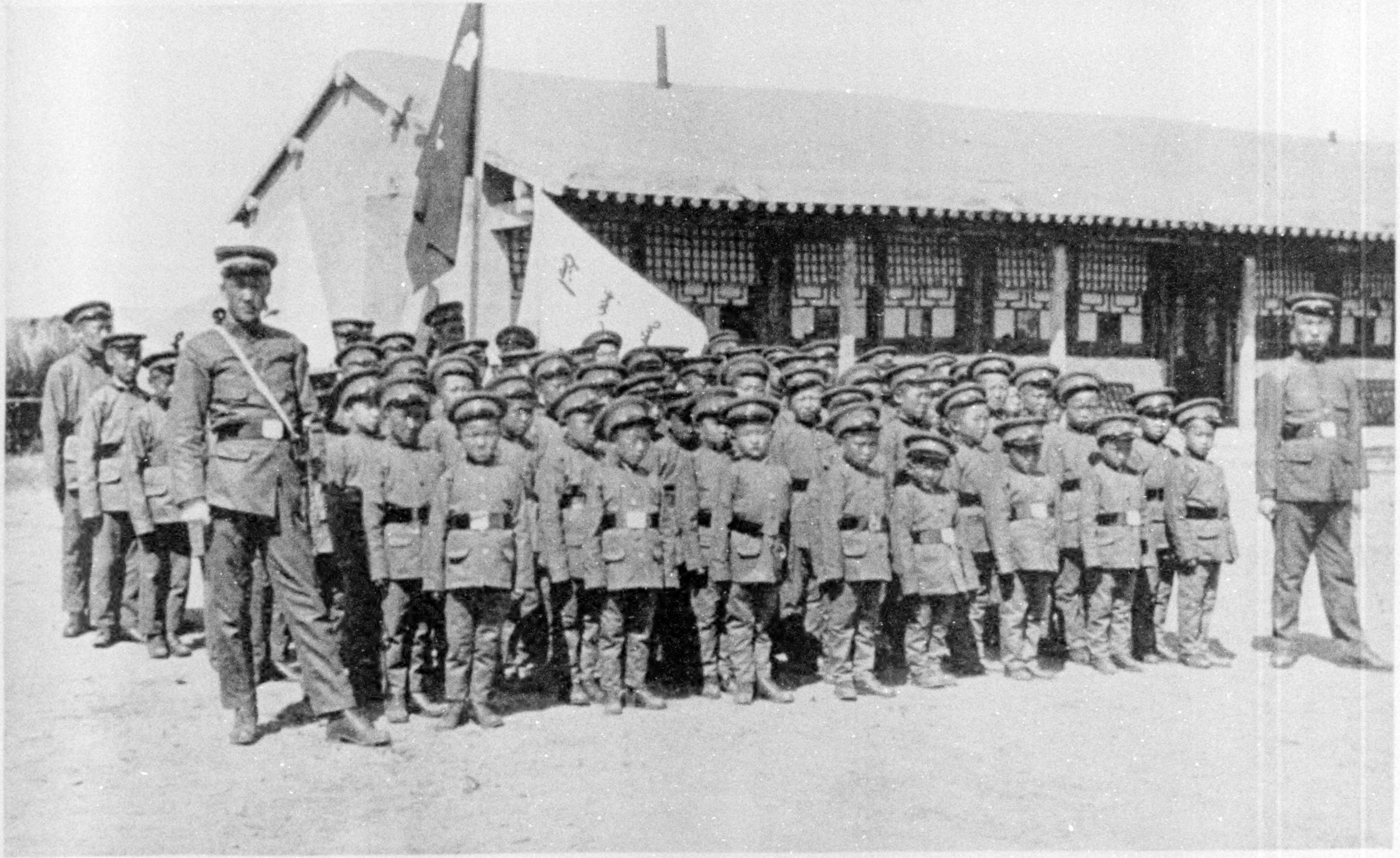
This ceremony takes place in the spring and represents the chasing out of the Spirit of Evil. The dance consists of a series of posturings by men and boys, who wear over their heads fierce-looking animal masks (see text, page 525).



Photograph by Luther Anderson

A BUDDHIST TEMPLE AT A TOWN ON THE CHINESE-MONGOLIAN FRONTIER. NOTE THE TYPE OF SADDLE ON THE CAMEL

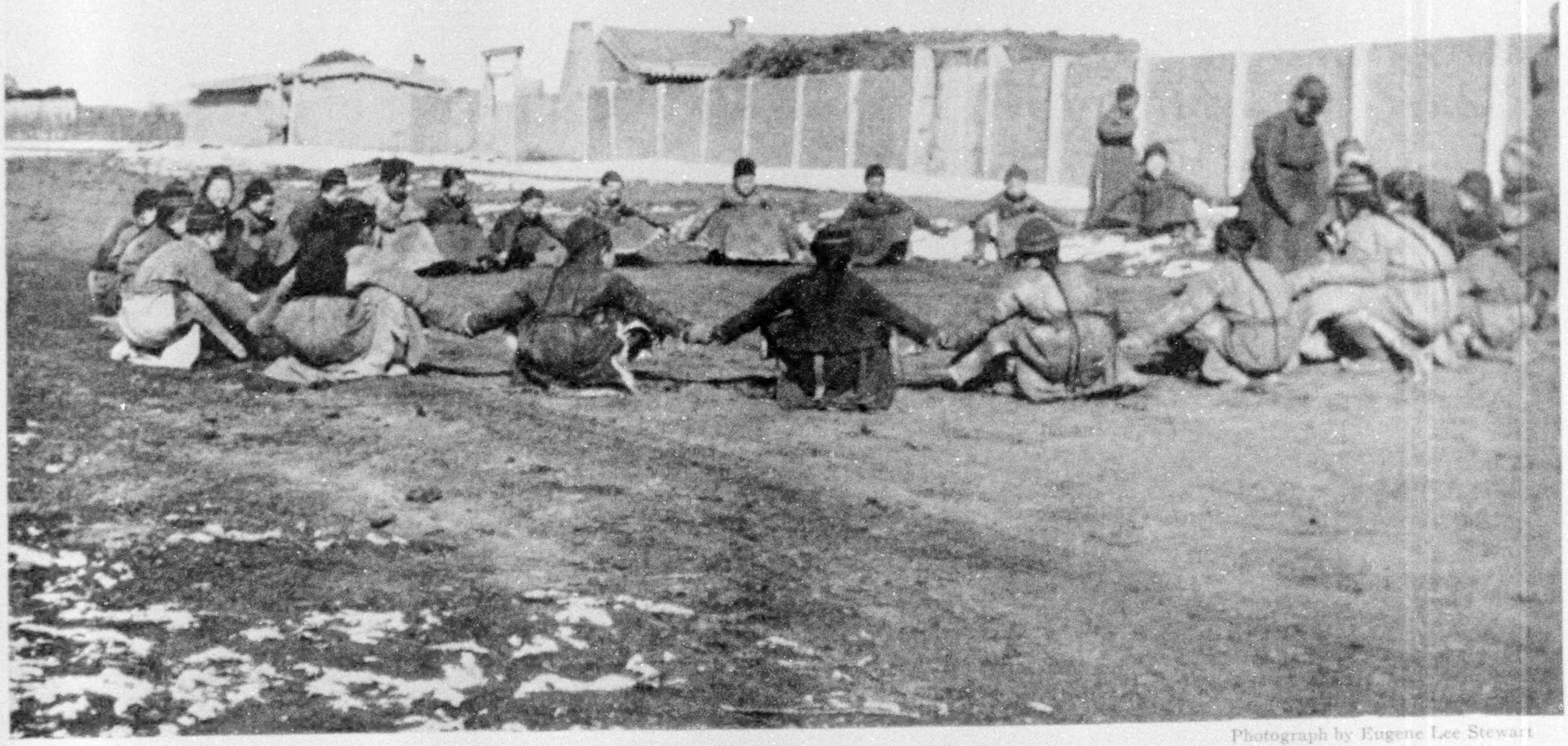
XUM



Photograph by Eugene Lee Stewart

MONGOLIAN SCHOOLBOYS AND THEIR MONGOLIAN TEACHERS IN CHINESE MILITARY UNIFORM

When the Mongols retired from China, the Manchus took over their rule and assumed a nominal control over Mongolia. But the Mongols were allowed to preserve their original tribal form of government. When the Manchus in turn disappeared from China, the Mongols declared their complete independence. Today, however, they are fearful of the inroads of the Chinese, whose thrifty agriculturists are already encroaching on the Mongolian steppes.

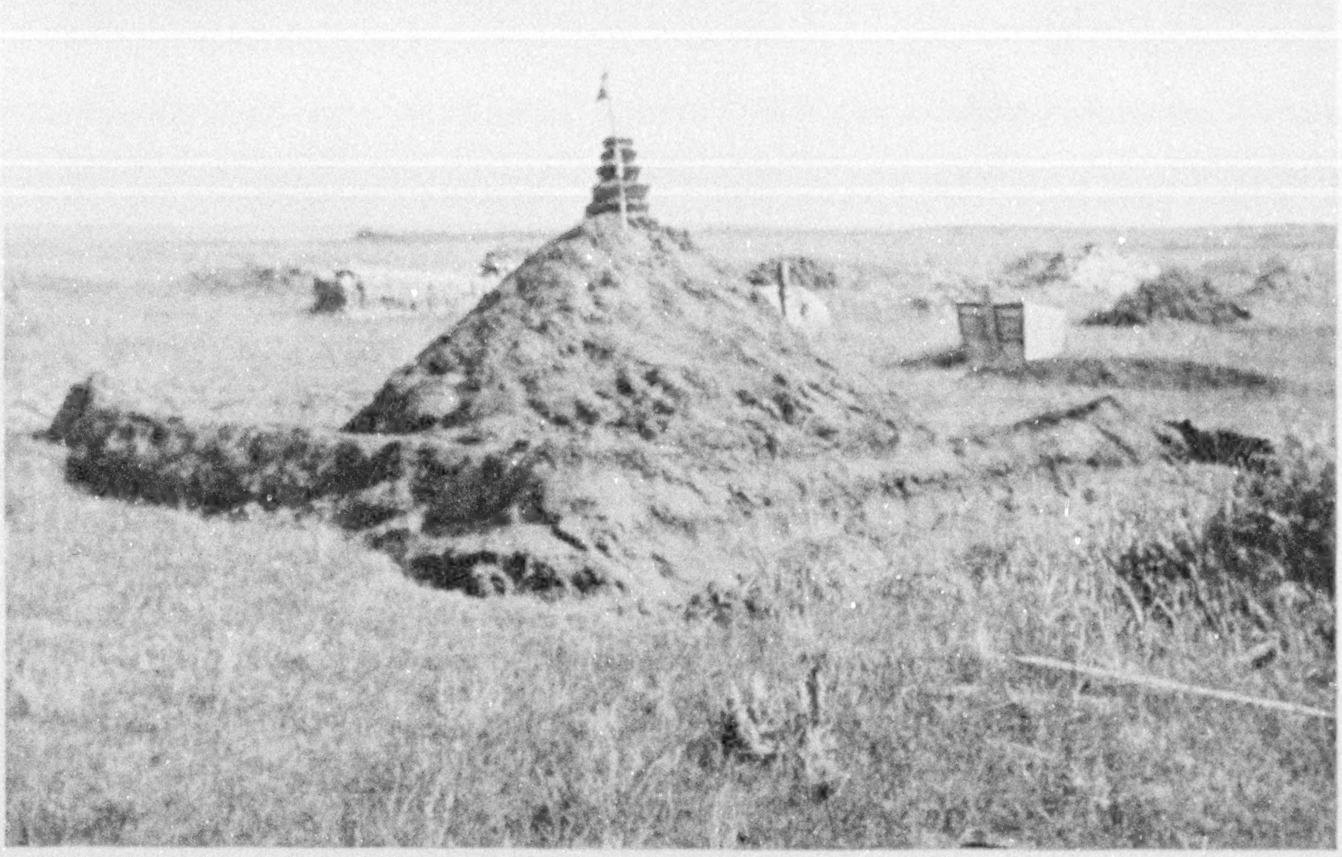


Photograph by Eugene Lee Stewart

MONGOLIAN SCHOOLBOYS PLAYING A GAME RESEMBLING OUR "BLIND MAN'S BUFF"

The mud wall in the background surrounds the village of Hailar, on the Trans-Siberian Railway.

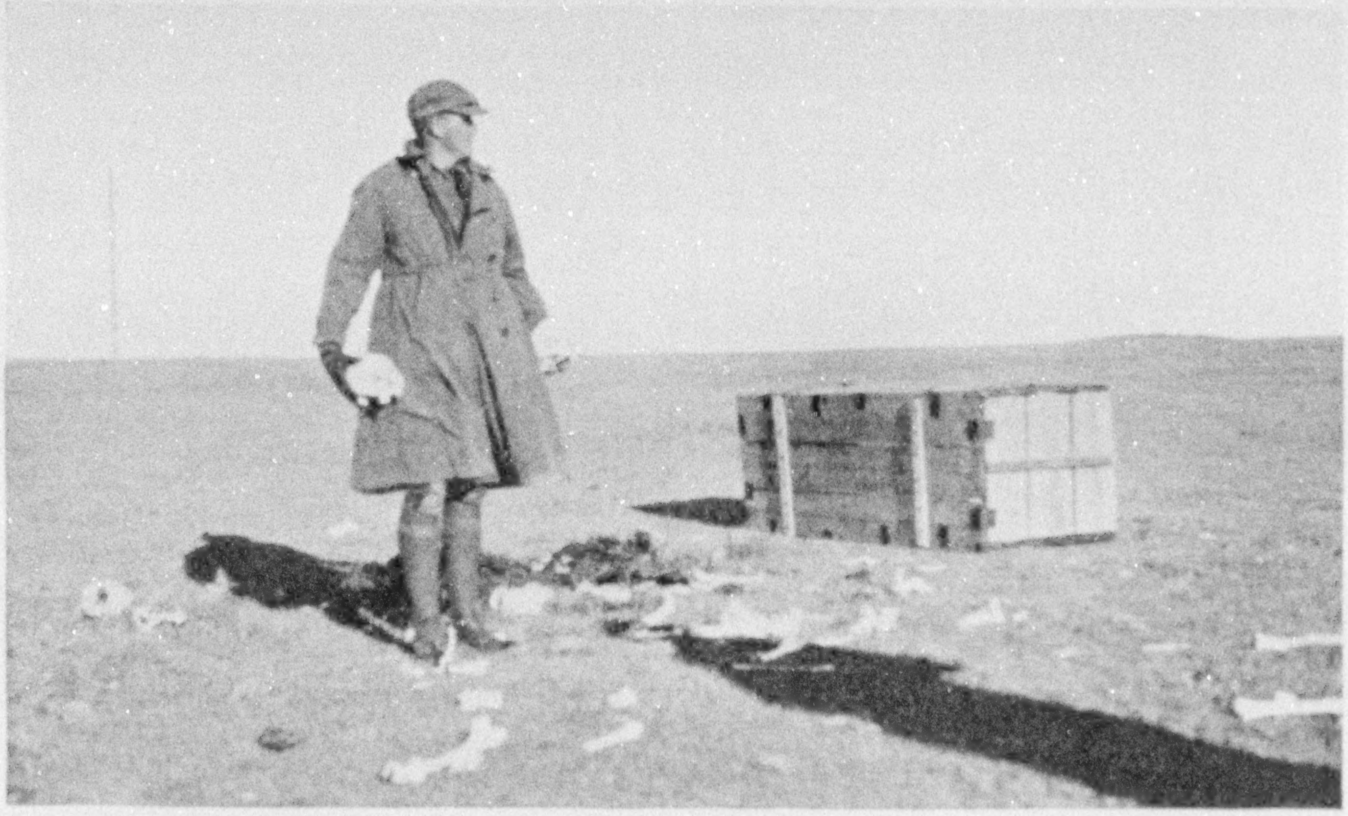
XUM



Photograph by Eugene Lee Stewart

A MONGOLIAN CEMETERY

The Mongolians do not bury their dead, but set the coffin on the ground and cover it with earth, and in time the elements undo the work which has been performed to keep prying eyes away. The mound in the foreground has been recently made. Frequently the dead are merely cast out upon the steppe (see illustration below).



Photograph by Adam Warwick

HUMAN BONES WHITENING ON THE MONGOLIAN STEPPE AND A BOX CONTAINING A CONDEMNED PRISONER

While an occasional cemetery is found (see illustration above), the more customary method of disposing of the dead is to leave the bodies exposed on the plains to be preyed upon by wolves and dogs. Condemned criminals, fastened in wooden boxes, are left to die of hunger and finally to be eaten.

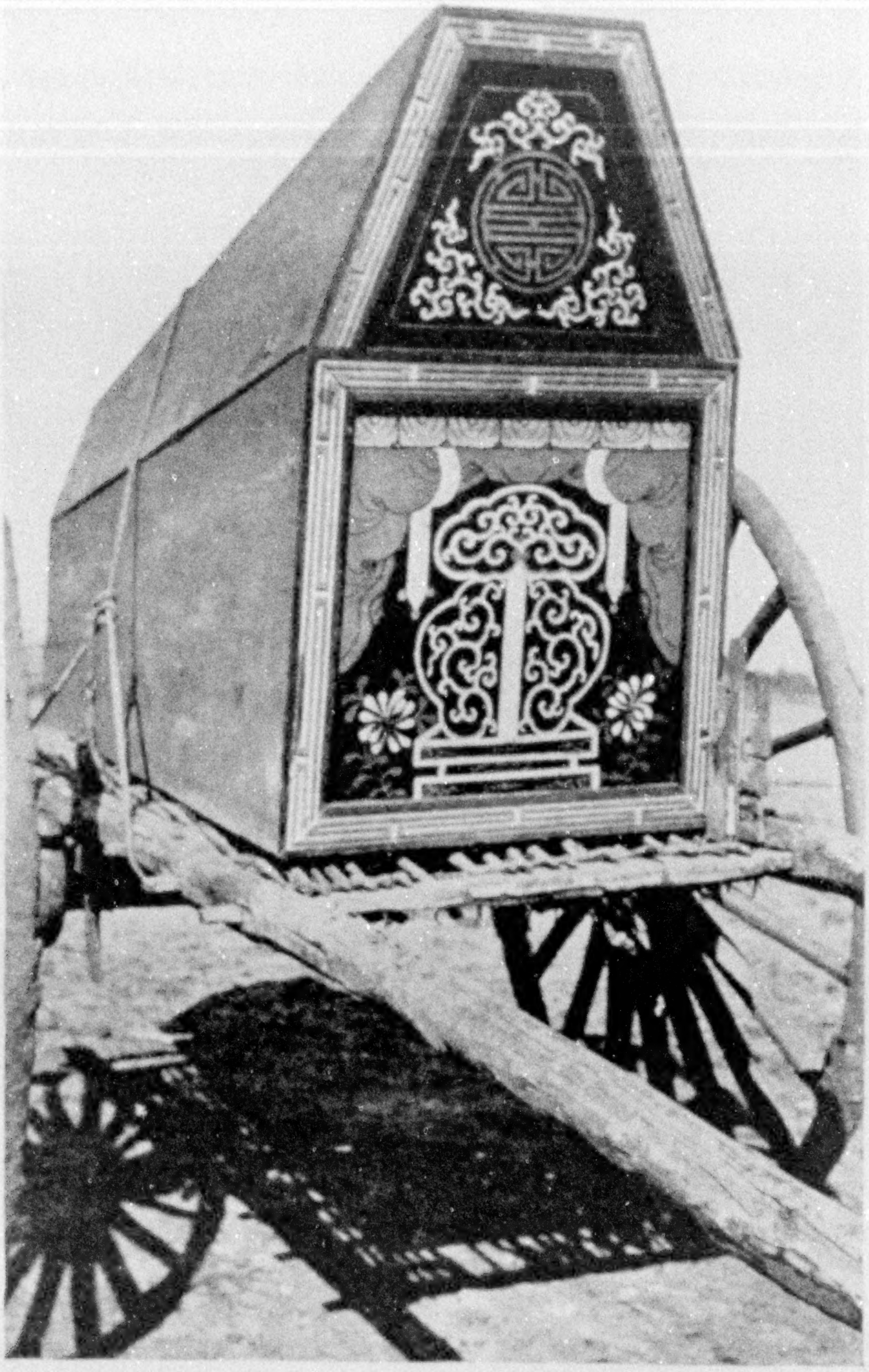
best he has. "Only observe etiquette, and every tent is yours," as the saying goes.

For even among the rough-and-ready People of the Wilderness there are a few essential rules of politeness. From whatever side a tent is approached, for instance, be sure to ride up to it from the front.

When within a short distance stop and shout "Nohoi" (dog). The Mongol dogs are very savage, and it would be dangerous to attempt to advance farther till the people of the village have come out to restrain them, which by law all Mongols are forced to do. Until they receive this protection, horsemen remain in the saddle, and those on foot keep the animals at bay as well as they can with sticks.

A Mongol dog has many wolfish qualities, and the disgusting Mongol habit of leaving corpses on the plains instead of burying them increases his savage instincts.

No white man can pass the human skulls and bones strewn over the steppes without a shudder, and he turns sick with disgust at the sight of the occasional wooden box in which a condemned criminal is left to die of hunger and finally be eaten by the wolves and dogs (see illustration, page 548).



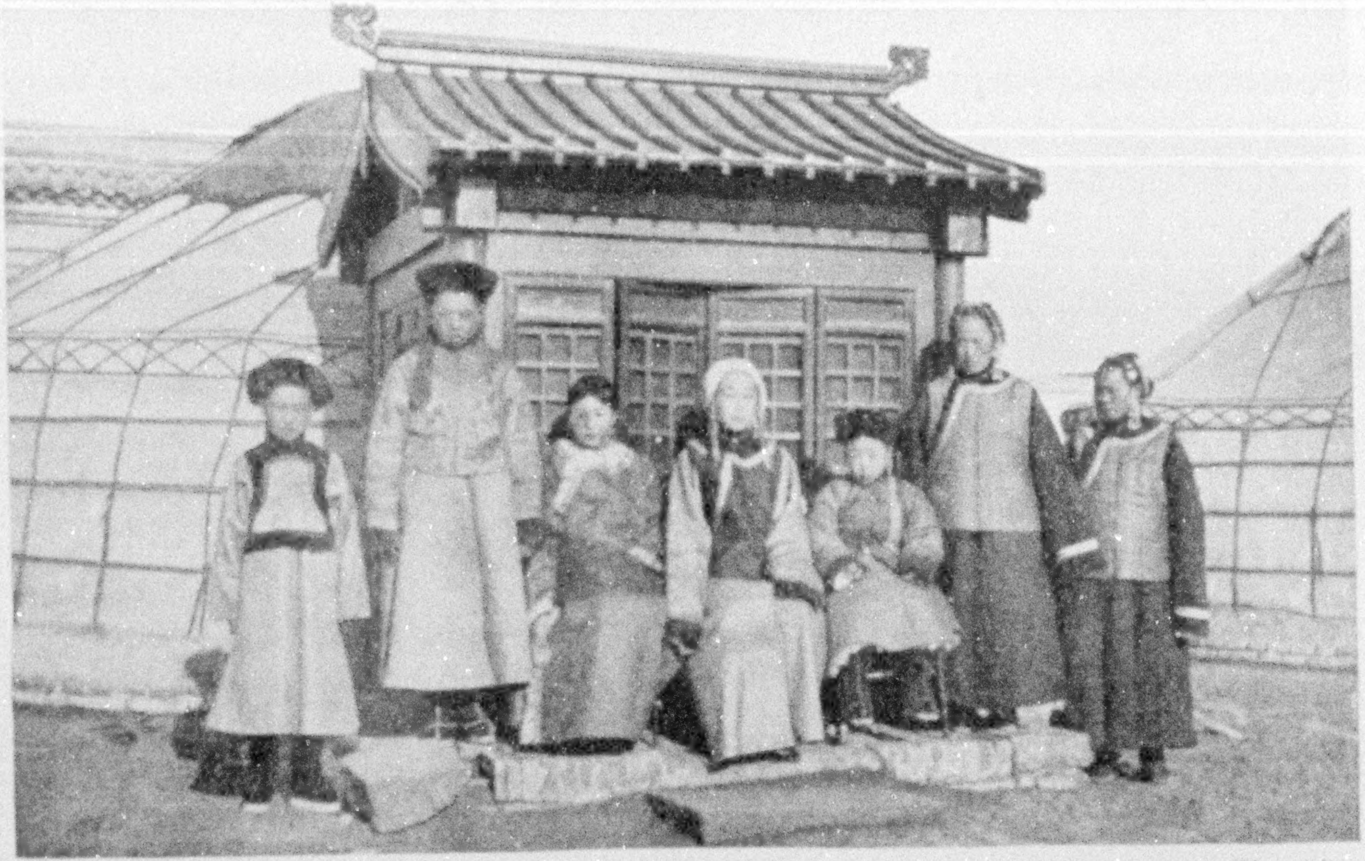
Photograph by Eugene Lee Stewart

A MONGOLIAN COFFIN, PAINTED GREEN AND DECORATED IN WHITE AND GOLD

EXCHANGE OF SNUFF BOTTLES IS A TOKEN OF HOSPITALITY

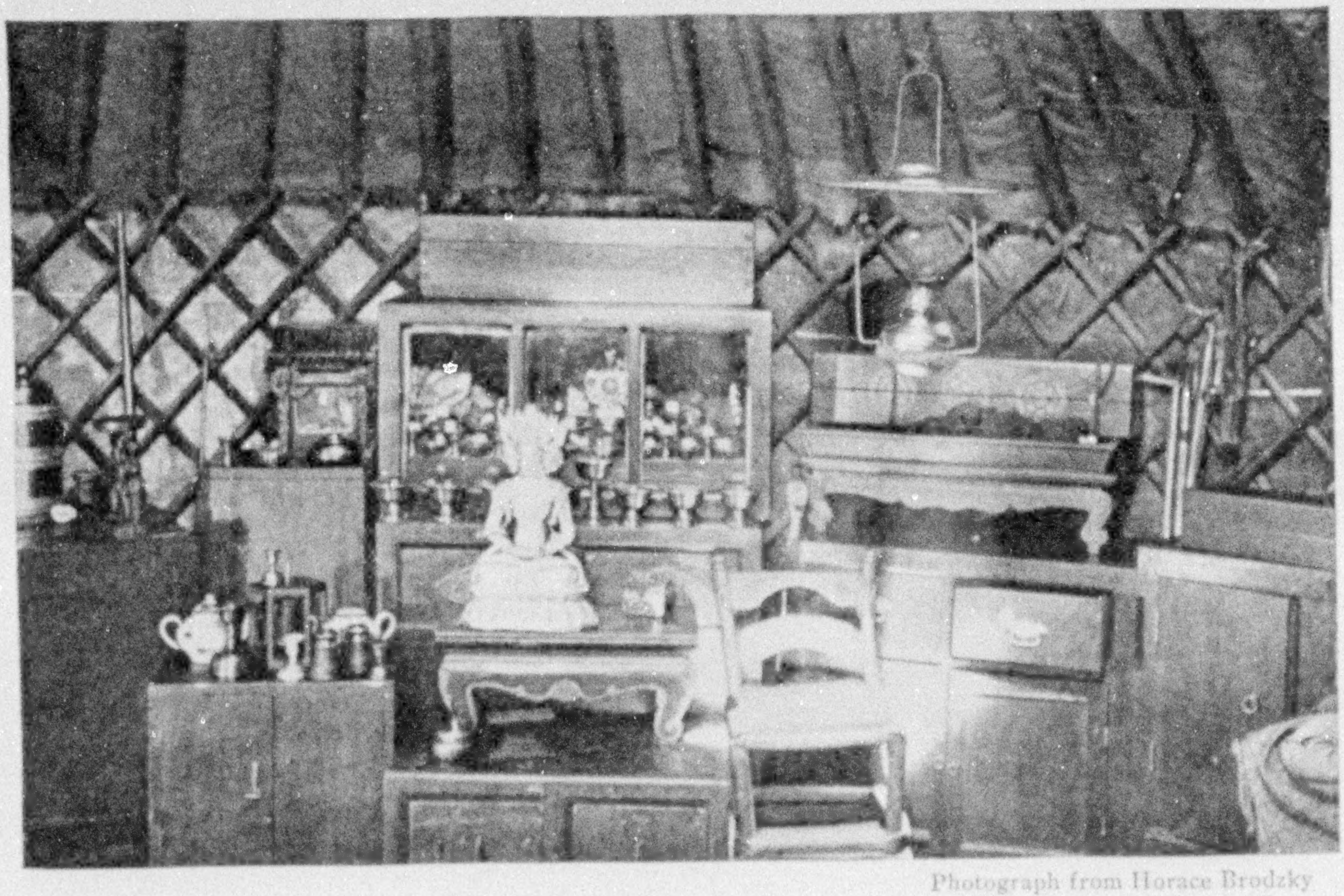
Once a stranger enters a tent, however, the savage creatures will no longer attack him; so that to bring a stick inside is considered a lack of good manners. Having left his stick outside, then, the traveler on getting through the low doorway, says "Mendu" (greeting) to the people inside and proceeds to sit down on the left side of the fireplace cross-legged or, if he cannot do this, with his legs stretched toward the door.

The next thing is the interchange of snuff bottles. A Mongol visitor offers his first to the host and the people of the tent, and receives theirs in return; but, as foreigners do not carry snuff generally, the Mongol host offers his to the foreign visitor. Meanwhile the women have been warming tea.



Photograph by Adam Warwick

A MONGOL GUEST TENT WITH WOODEN DOORWAY AND A MONGOL FAMILY GROUP



Photograph from Horace Brodzky

THE INTERIOR OF A YURT, OR MONGOLIAN TENT-HOUSE

Note the god, an American lamp, and the glass-fronted cupboard with small cups, which contain flour, cakes, tobacco, and rice—offerings to the god. A yurt is never placed where the shadow of a tree can fall upon it, for this brings bad luck. It is made of trellis and covered with felt. The fire is laid in the middle of the one room, and the smoke allowed to find its way out through a hole in the roof. When it rains, this hole is covered up, with consequences easy to imagine.

About sunset the hostess, glancing up at the hole in the roof as if it were a clock, will inquire, "Shall I make dinner?" and her lord and master, nothing loath, will answer, "Make it." Accordingly she proceeds to the dog-proof cage outside the door and hews off a piece of frozen meat with an axe. This is boiled with a kind of millet, and, when pronounced done, the morsels are fished out with the fire-tongs and served in a rude basin or on a board.

Photograph by Eugene Lee Stewart

A MONGOLIAN BOY AND GIRL WITH LITTLE BROTHER ON BEHIND

The wealth of Mongols is reckoned, not in real estate, but in live stock and these children, as the heirs of an average *yurta*, or family, will possess fifty sheep, twenty-five horses, fifteen cows and oxen, and ten camels. Next to cattle-breeding the most important occupation of this people is the transport of goods. It is estimated that more than 1,200,000 camels and 300,000 ox-carts are employed in the country's internal caravan trade.

TUCKED IN FOR THE NIGHT

Most Mongols retire immediately after this meal, and the servant's last duty is to pile up the fire and then tuck the sheepskin coats snugly around hosts and guests, while the master of the tent, in true Mongol fashion, indicates by the points of the compass the places where the tucking is deficient.

Next morning, on leaving, the traveler mounts his horse at the tent door with a bow and a smile, as the Mongols do not have any customs equivalent to our handshaking and good-bye. A few days later the village itself will have perhaps moved on.

Like some of our American Indians, whom they resemble, the People of the Wilderness cannot endure a settled life. All their belongings pack easily on the back of a camel; the few calfskin bags with provisions, the tent, the cooking pots, the grate, two water-buckets, and a few odd pieces of felt are all they need—except space to journey in.

What the Mongols most fear is the attempt of the Chinese to colonize their country, and they see with alarm how the tilled fields of these thrifty agriculturists are already encroaching on the steppe.

THE NEW MAP OF ASIA

MORE than one-half the human race lives in Asia, which has an area nearly six times as large as continental United States, approximating one-third of the earth's entire land surface.

Asia boasts the world's highest peak, Mt. Everest, 29,140 feet, and the ocean's deepest pit, off the coast of Mindanao, in the Philippines, 32,088 feet. Somewhere within its borders was probably the birthplace of man, and from those fastnesses within the shadow of its Himalayas began the migrations which resulted in the peopling of all the continents and all the islands of the seas. It is a land of teeming millions of men and of vast solitudes.

There are twelve rivers on the earth's surface which exceed 2,500 miles in length, and of these six rise in and flow through Asia.

The continent extends from Cape Chelyuskin, within twelve and a half degrees of the North Pole, to the Malay Peninsula, within one and a half degrees of the Equator; and from the Strait of Bab El Mandeb, separating Arabia from Africa, to the Bering Strait, separating Siberia from Alaska, is 6,700 miles—more than a fourth of the circumference of the globe.

A MEDIEVAL EMPIRE DISMEMBERED

To the casual observer, the New Map of Asia, published by the National Geographic Society and issued as a supplement with this number of THE GEOGRAPHIC,* may not present an appearance radically different from that of pre-war Asia; and yet the world conflict on the fields of Europe has wrought vast changes here, resulting in the dismemberment of a great empire, which had come down from medieval times, the creation of five new nations, the provisional creation of four others, and the possible evolution of half a score of semi-independent states from the wreck of what were once the proud provinces that gave allegiance to the Tsar under the collective name of "Russia in Asia."

While, with the exception of the Turks, none of the ancient peoples of Asia participated in the World War to the same extent as European and American peoples, there were fewer neutral governments in the Orient than in Europe; for Siberia, as a part of Russia; India, Burma, and the suzerain states which cluster on the slopes of the Himalayas, as parts of the British Empire; Indo-China, as a part of the French Colonial Empire; Persia, as a battleground for contending armies; Arabia, China, Japan, and Siam in their own right—all were involved in the struggle.

EVERY ASIATIC NATION AFFECTED

Strictly speaking, Afghanistan and Mongolia alone of all Asia's vast dominions were untouched politically by the World War; and even these two nations were not wholly divorced from it, but were affected indirectly, as Mongolia from 1913 to 1919 was under the protection and guidance of Russia, and Britain's influence was paramount at the court of the Amir of Afghanistan.

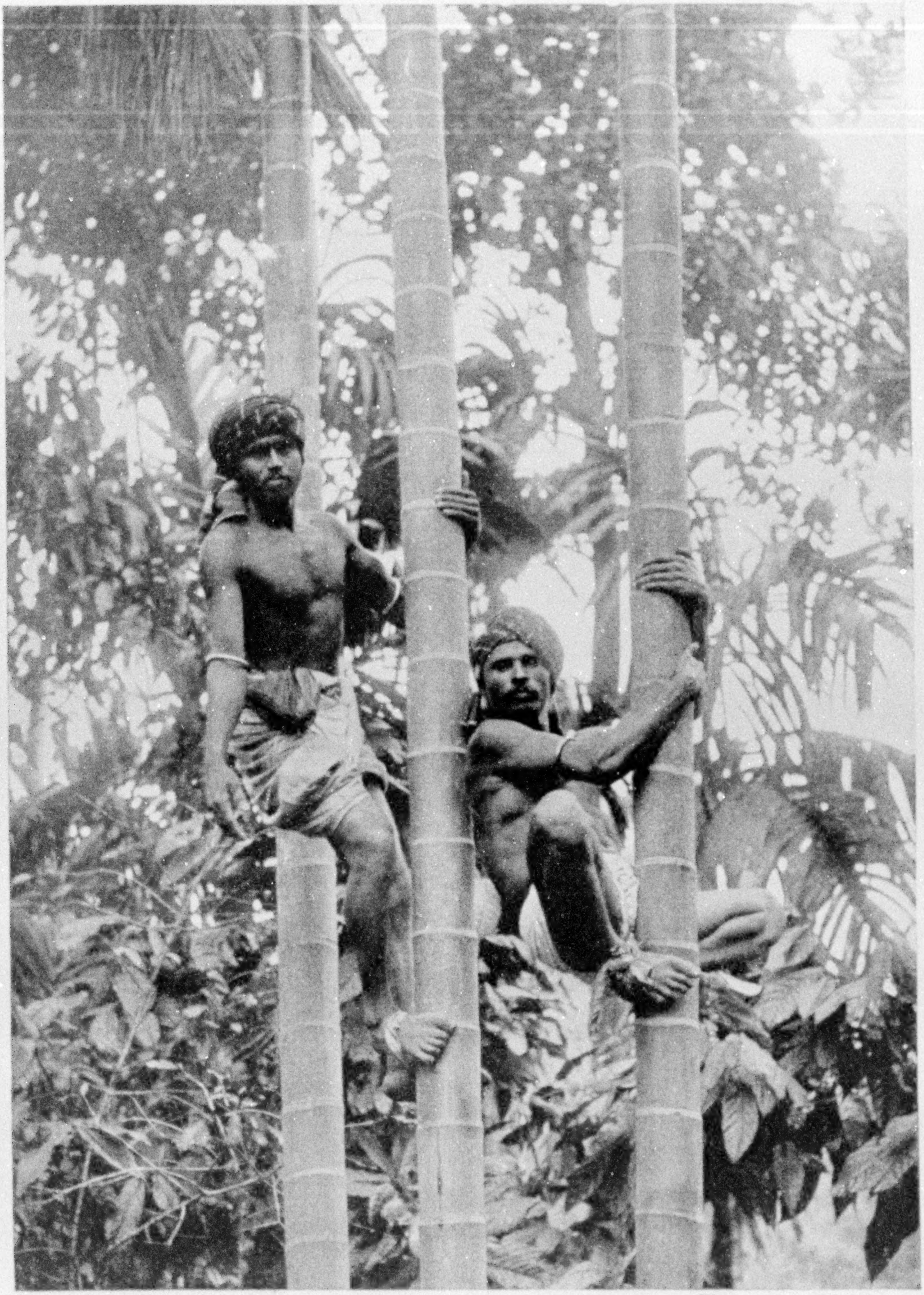
As an ally of the Germans, Turkey by her defeat has lost not only most of her territory in Europe, but has been forced to surrender extensive and populous portions of her Asiatic empire, out of which have been set up the "independent states" of Syria, Mesopotamia, Palestine, Hedjaz, and Armenia and the autonomous province of Kurdistan.

France has assumed a guardianship (mandate) over Syria, and Britain exercises a similar office toward Palestine and Mesopotamia until such time as the three countries can be entrusted with their own affairs. Armenia, though created a separate state by the Treaty of Sèvres (the Turkish treaty), has not as yet had her boundaries definitely delimited.

Unless this treaty is radically revised, as is now contemplated, Greece will administer a large and prosperous district surrounding Smyrna, the most important port of Asia Minor, for five years, at the end of which time a plebiscite will be held to determine whether the inhabitants wish the area to be incorporated permanently as a part of Greece or resume its

---

*Additional copies of the New Map of Asia may be obtained from the headquarters of The National Geographic Society in Washington. Cloth edition, $1.50; paper, $1.00.

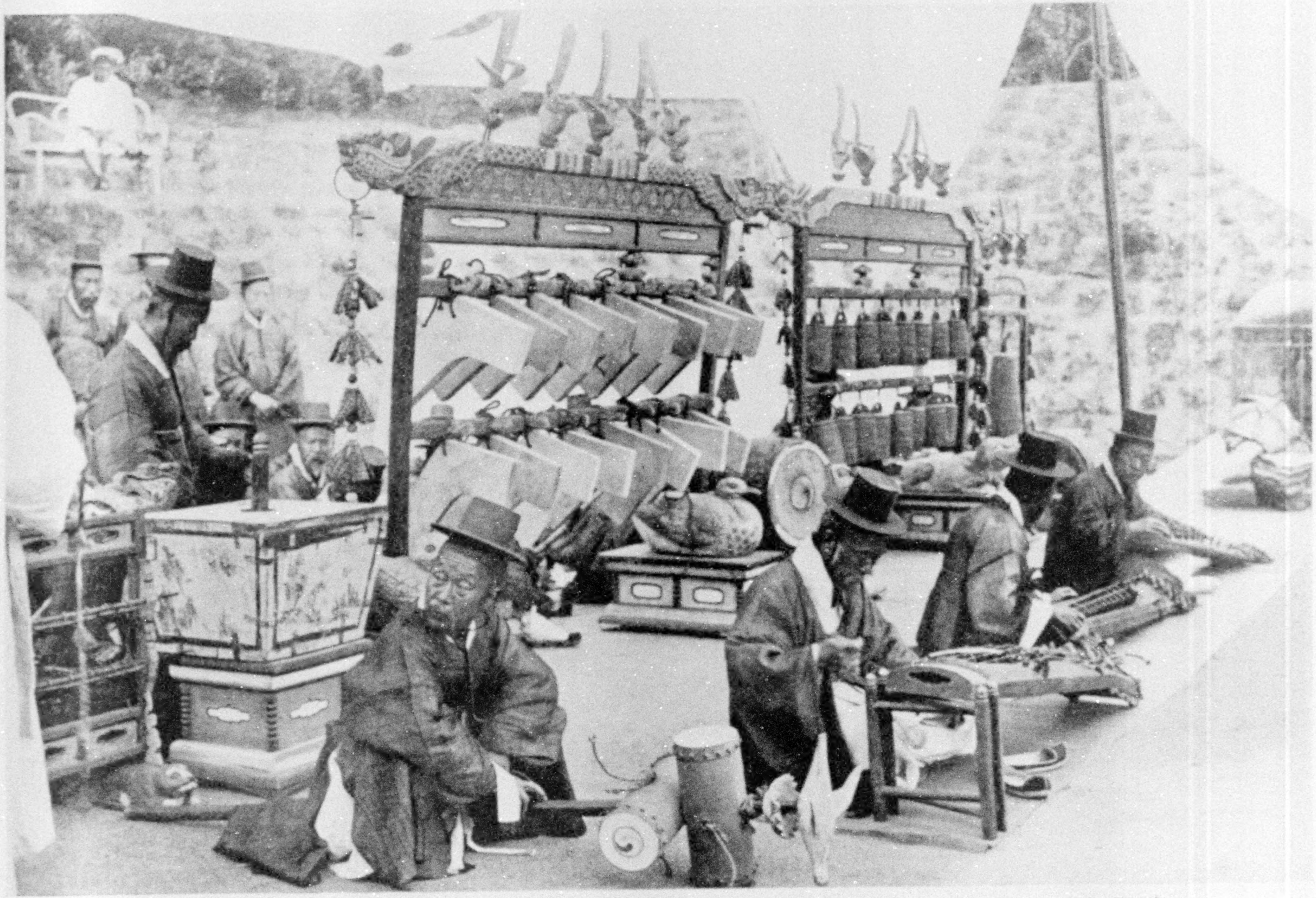


Photograph by Plâté, Ltd.

ANTISKID AIDS FOR A POPULAR CLIMB IN CEYLON

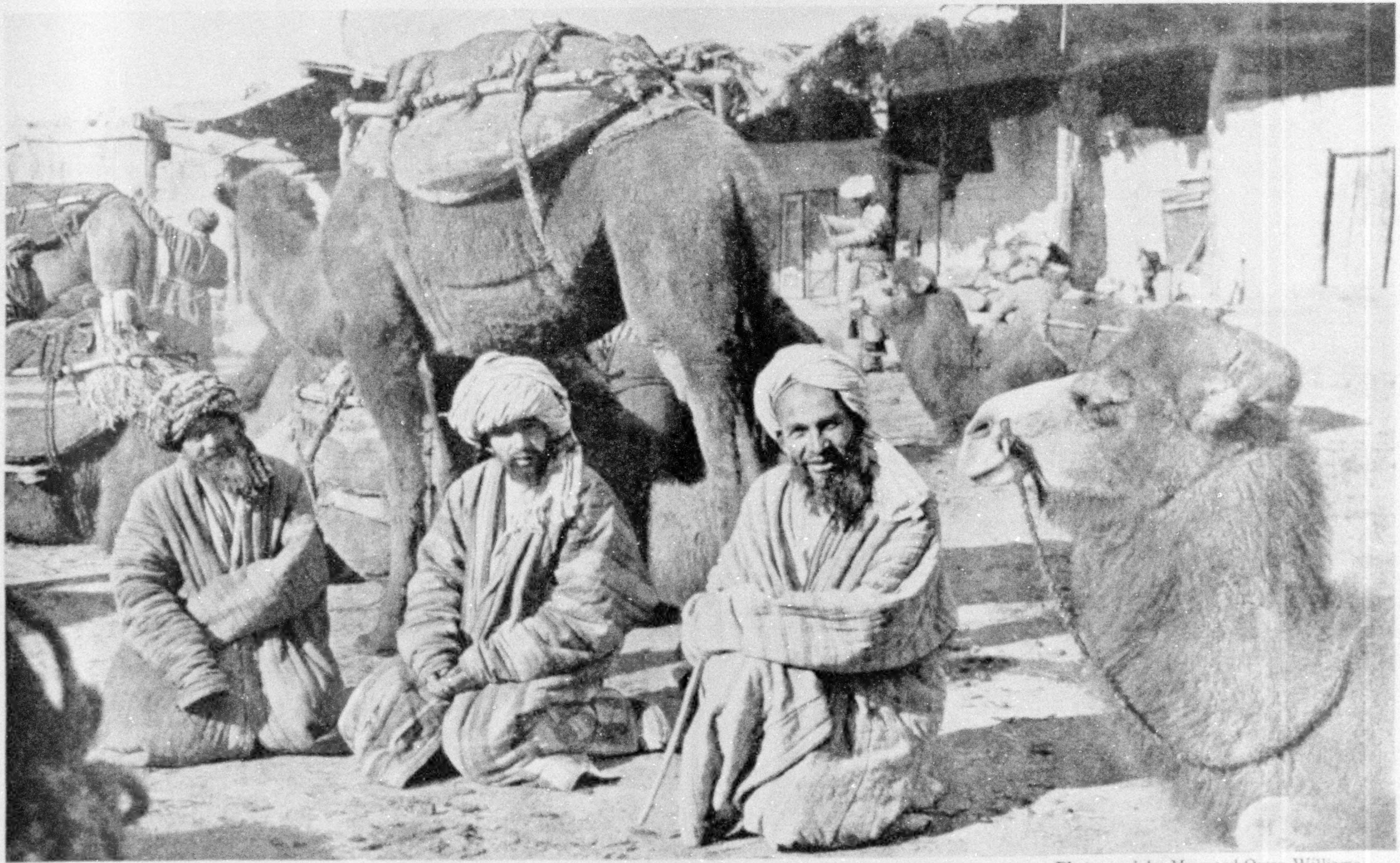
The areca, or betel palm, shown in the illustration is a versatile provider. Ivory beads are imitated in betel-nut; cordovan shades are obtained in tanning and dyeing through the use of areca catechu. One out of every ten men in the world dyes his teeth and much of his environment brick red with the astringent juice derived from chewing chopped areca-nut, wrapped in a lime-smeared leaf of the betel vine.

XUM



ALL THE INSTRUMENTS TO EQUIP A KOREAN ORCHESTRA ARE FOR SALE IN THIS SEOUL MUSIC STORE

The stringed instrument which three of the shop-keepers are playing is the *komungo.* It is a sort of long, narrow bass-viol without a neck. The player plucks the strings with his right hand and fingers them with his left near the bridge. This instrument has been popular with Koreans for seventeen hundred years. There is no such thing as "time" in Korean music.

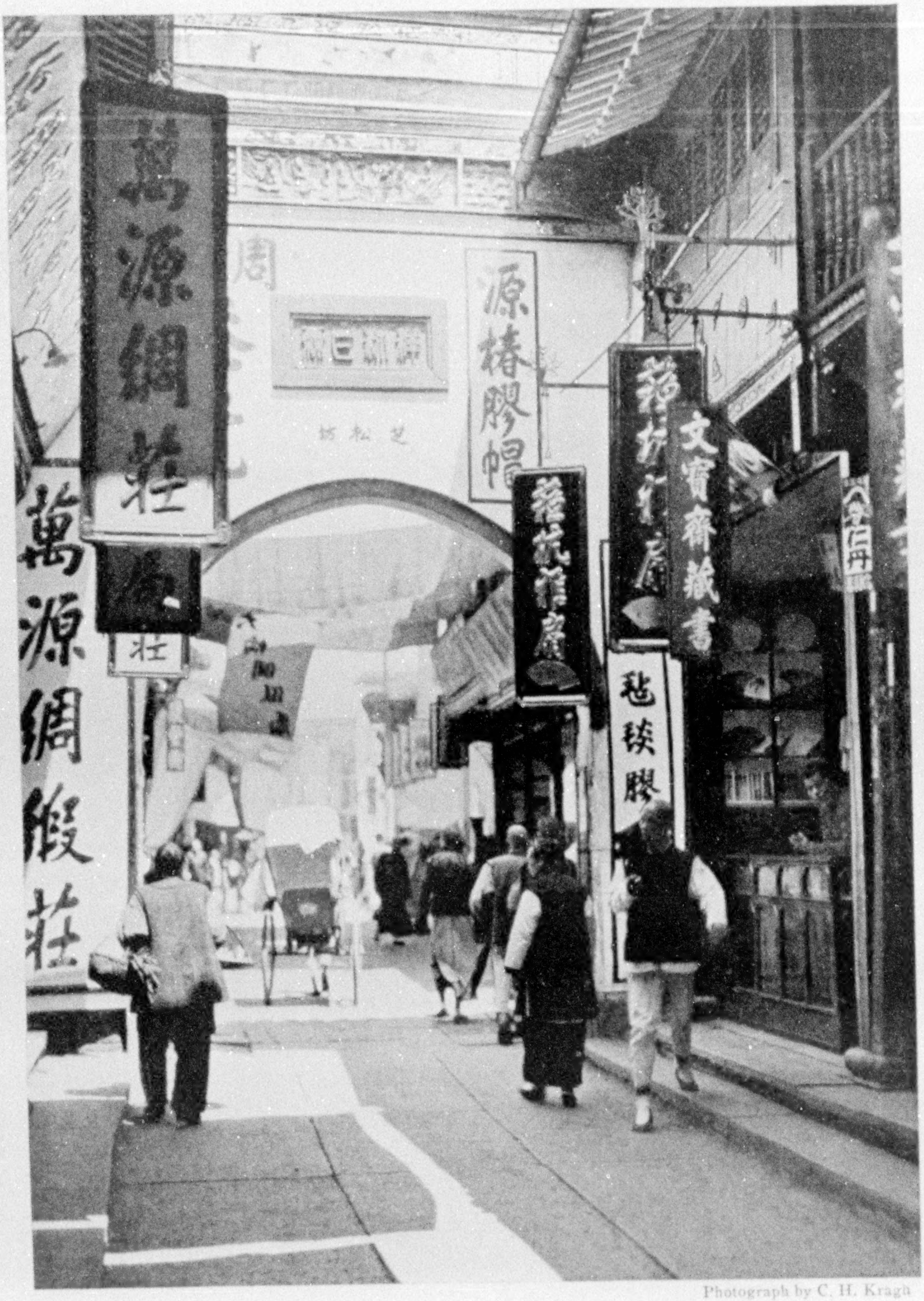


Photograph by Maynard Owen Williams

WHEN THE DESERT BURDENS ARE LAID ASIDE: A BOKHARA KHAN

Welcome as a friendly greeting after long separation is the sight of caravanserai lights at the end of the caravan trail. Samovars murmur drowsy contentment and even the disdainful camels gurgle with satisfaction. The gossip of a thousand trails weaves itself into one epic of inconsequence, and even sleep is not sweeter than the companionship of those who find themselves once more at the journey's end.

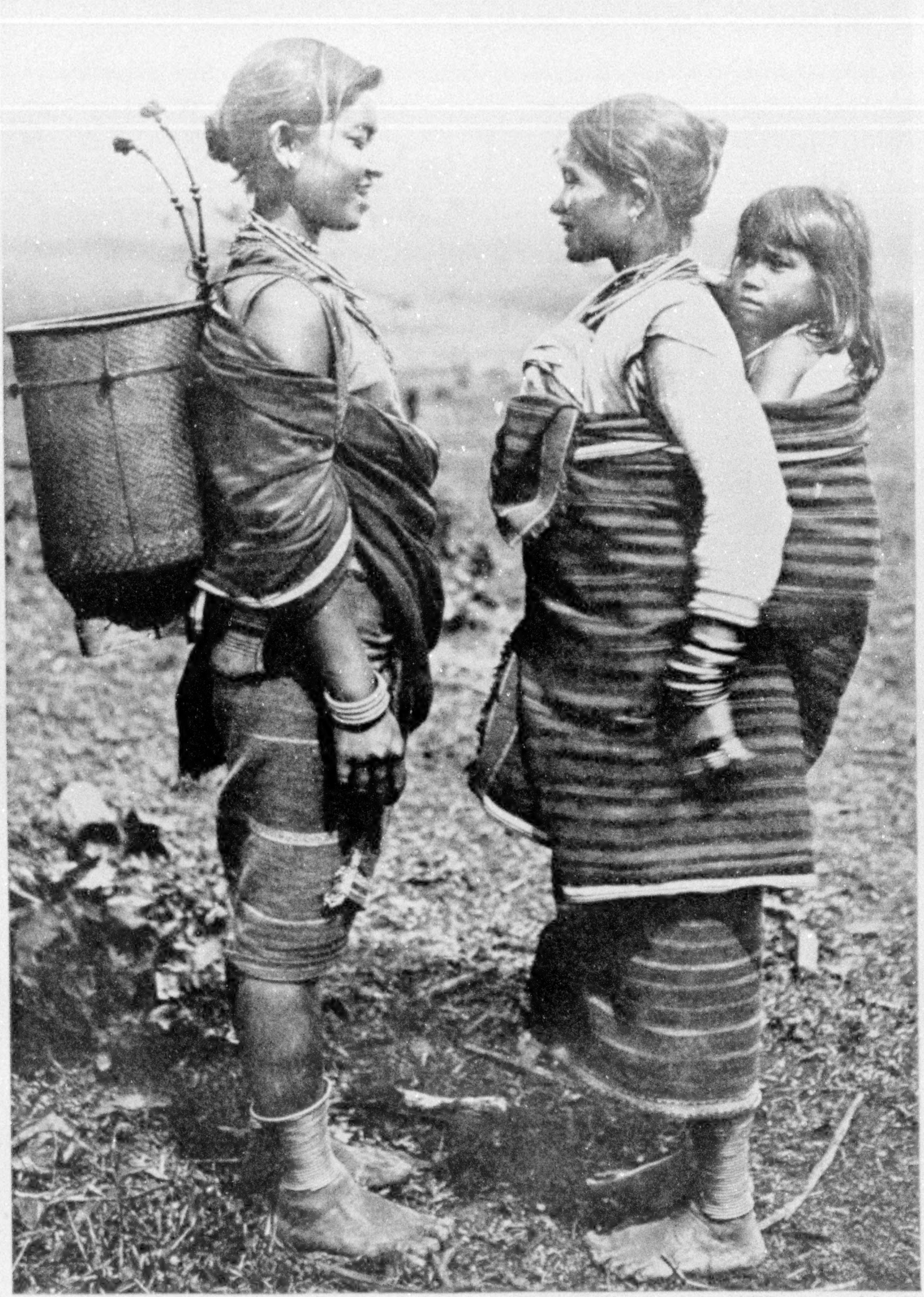
XUM



Photograph by C. H. Kragh

FEW CITIES OF CHINA ARE MORE PICTURESQUE THAN HANGCHOW

Fourteen centuries ago a small village of fishermen and salt-boilers occupied the site of this great city. It became the center of foreign trade in China in medieval times and was known as the "City of Heaven." Hither flocked merchants, travelers, and adventurers to enjoy the sights and indulge in its material pleasures.

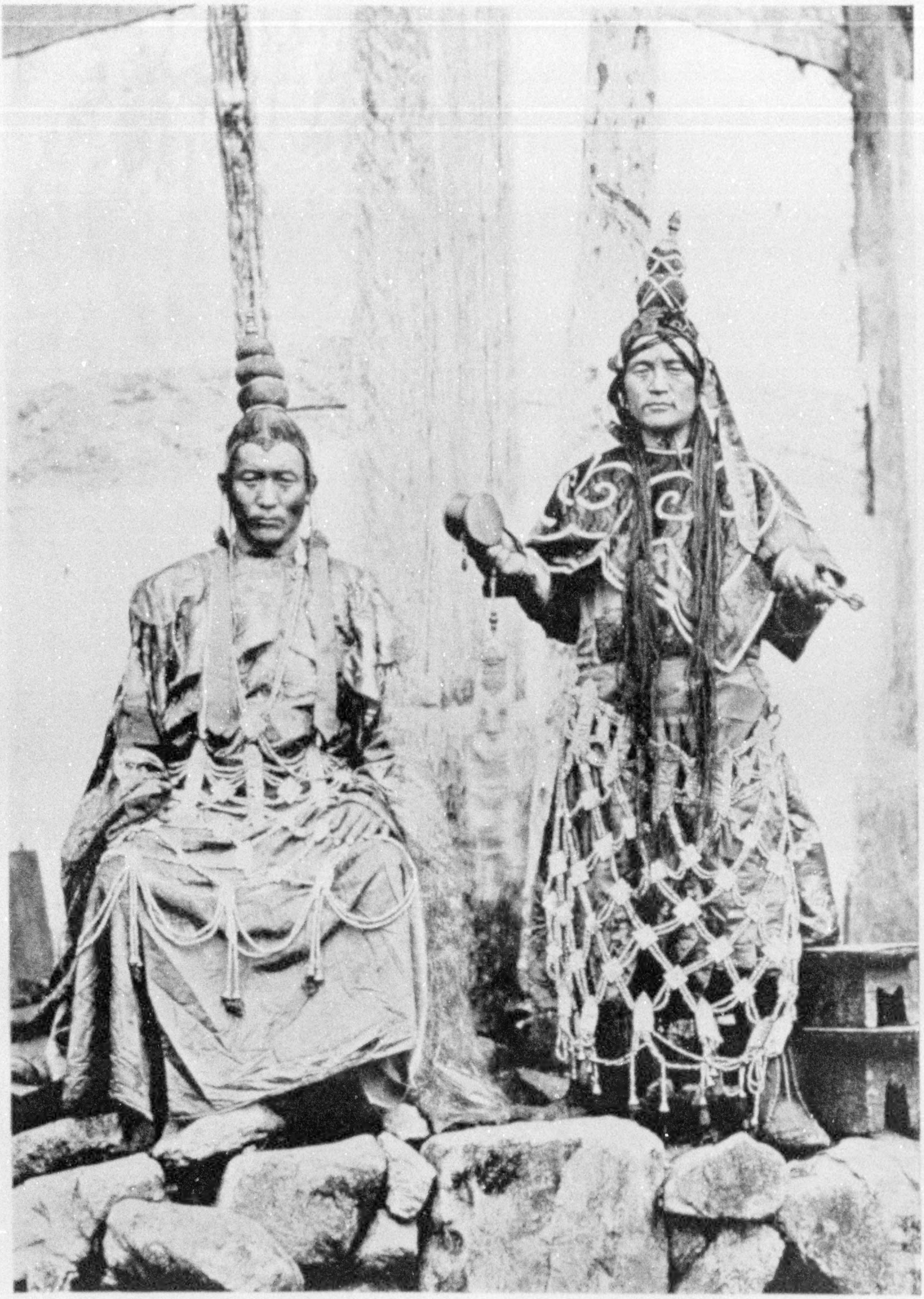


Photograph from M. Branger and Sons

DISCUSSING THE NEWS OF THE DAY IN FRENCH INDO-CHINA

Until given the mandate over Syria, the chief interest of France in Asia lay in Indo-China, which includes the protectorates of Annam, Tonking, and Cambodia, the colony of Cochin-China, and part of the Laos country. French Indo-China has an area more than a third larger than France in Europe.

XUM

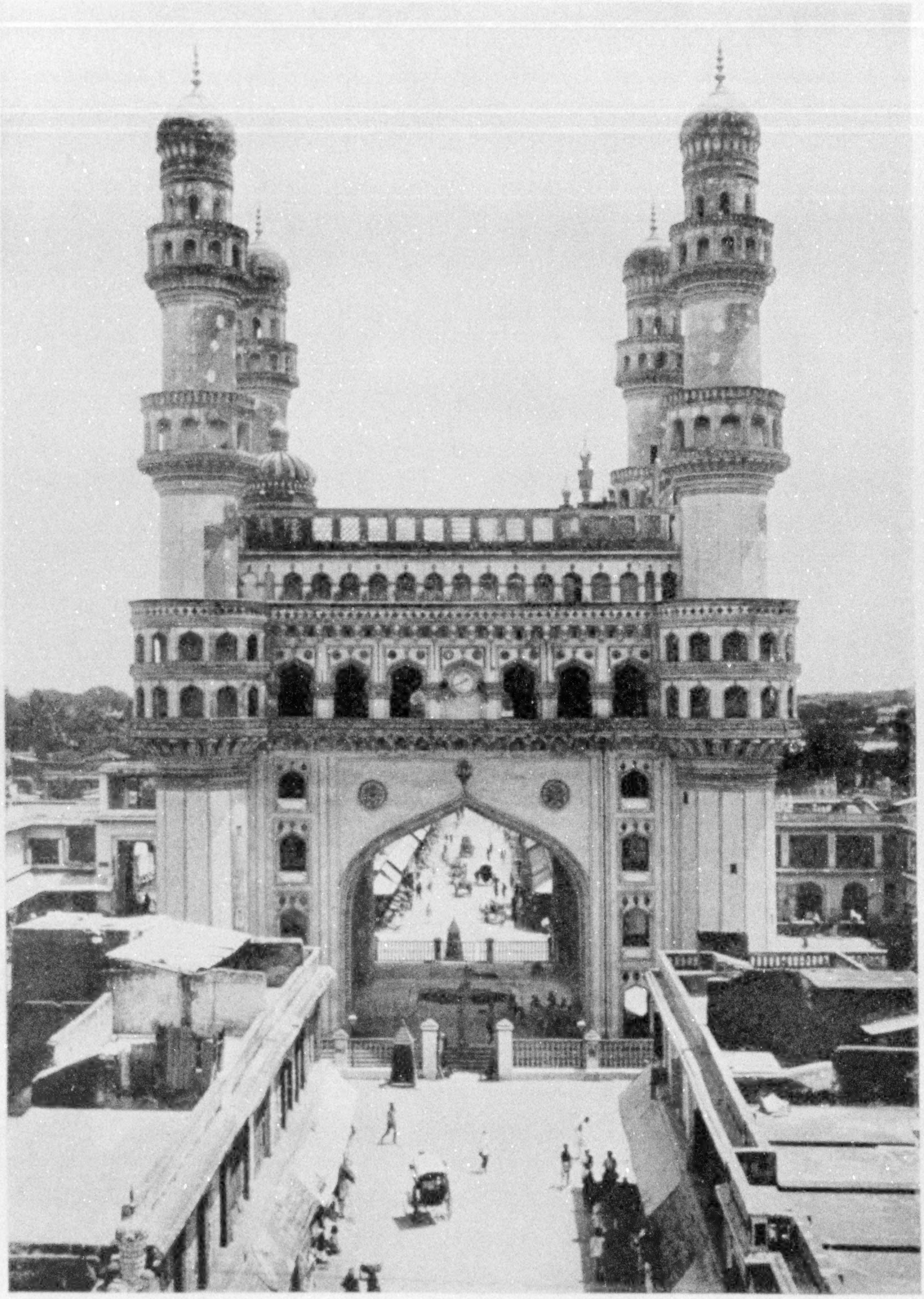


Photograph by John Claude White

THE LAMAS OF SIKKIM WEAR APRONS MADE OF HUMAN BONES

These "Rugens," as the decorative ceremonial garments are called, are worn during monastic dances. Sikkim is an Indian state, 70 miles long and 50 miles wide, in the Himalayas, between Nepal and Bhutan. The people are agriculturists and there are practically no towns or villages, each family living in a house on its own land.

XUM

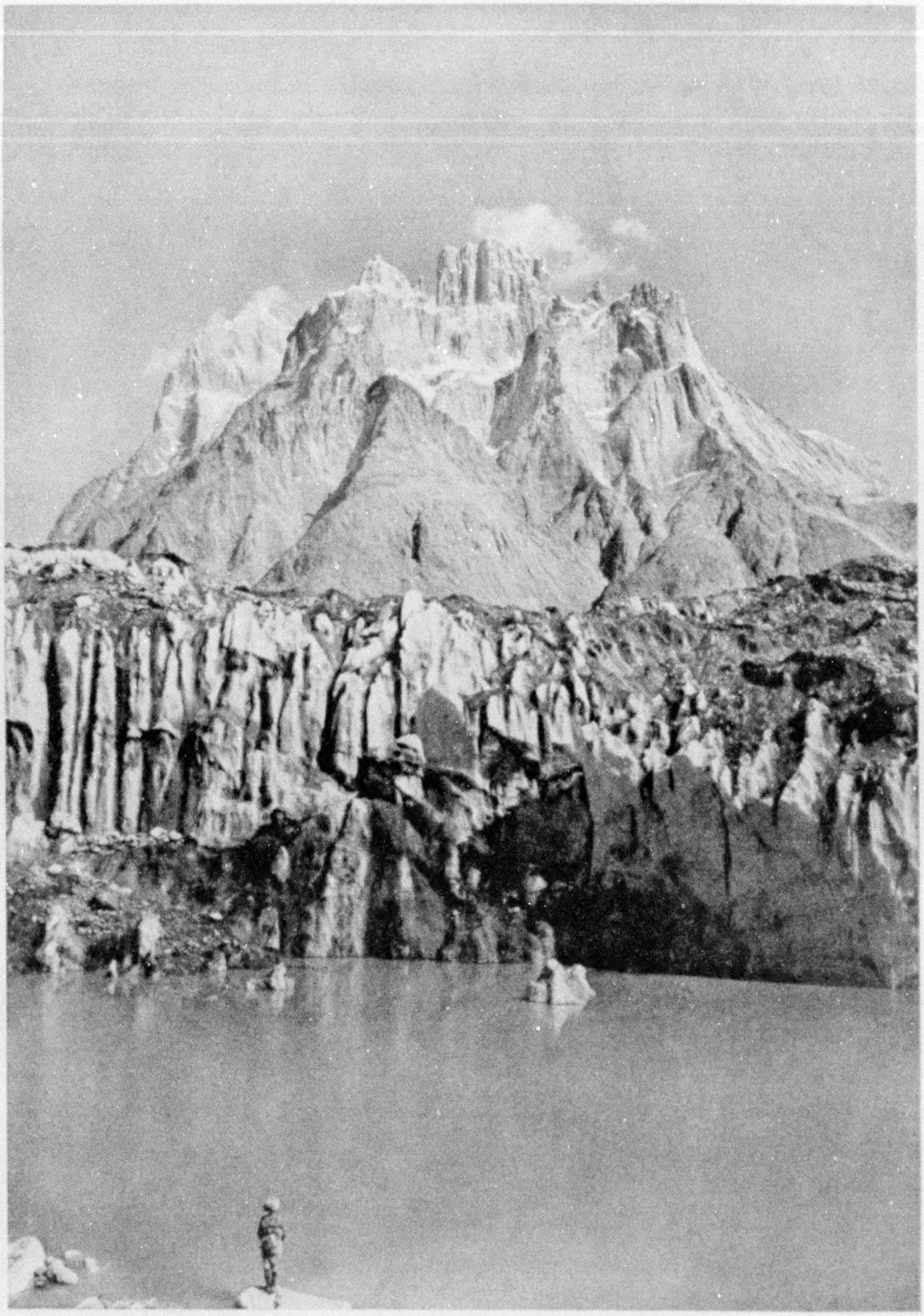


Photograph by Raja Deen Dayal and Sons

THE PRINCIPAL LANDMARK OF HYDERABAD, DECCAN, INDIA

The present ruler of India's largest native state has inaugurated an era of building which is doing much to beautify his capital on the Musi. But no building is more highly regarded by the Moslem inhabitants of Hyderabad than the Char Minar, with its four towering minarets. It was constructed in 1591 by Mohammed Kuli, the founder of the city.

XUM

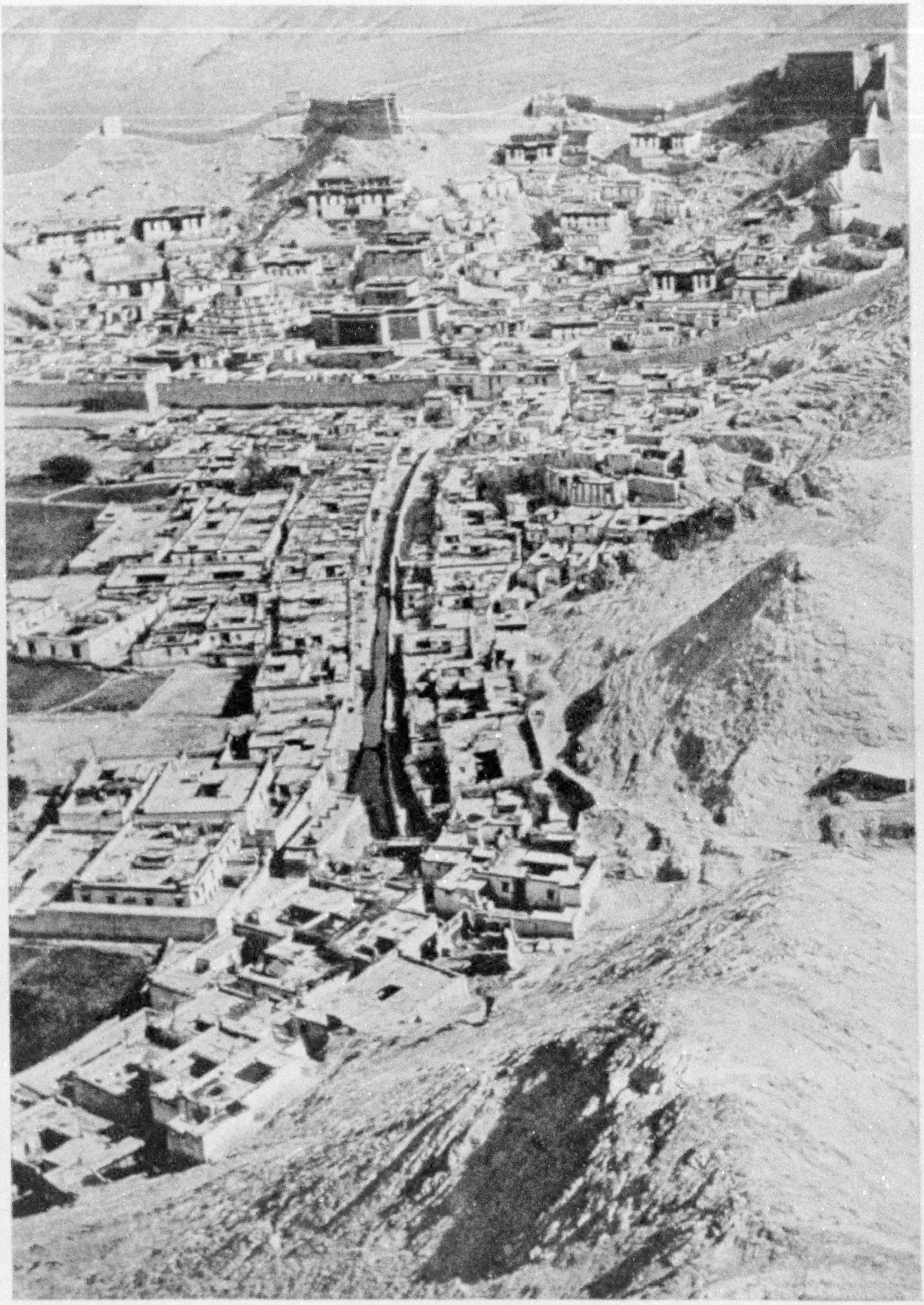


Photograph by Vittorio Sella

IN THE LAND OF LALLA ROOKH

It is not strange that Kashmir, set among the serried peaks, the eternal glaciers, and placid lakes of the Himalayas, should be famed in song and story as an earthly paradise—a vale of peace and happiness. The "rose of Cashmere" has been incorporated into our language as a synonym for natural beauty.

XUM

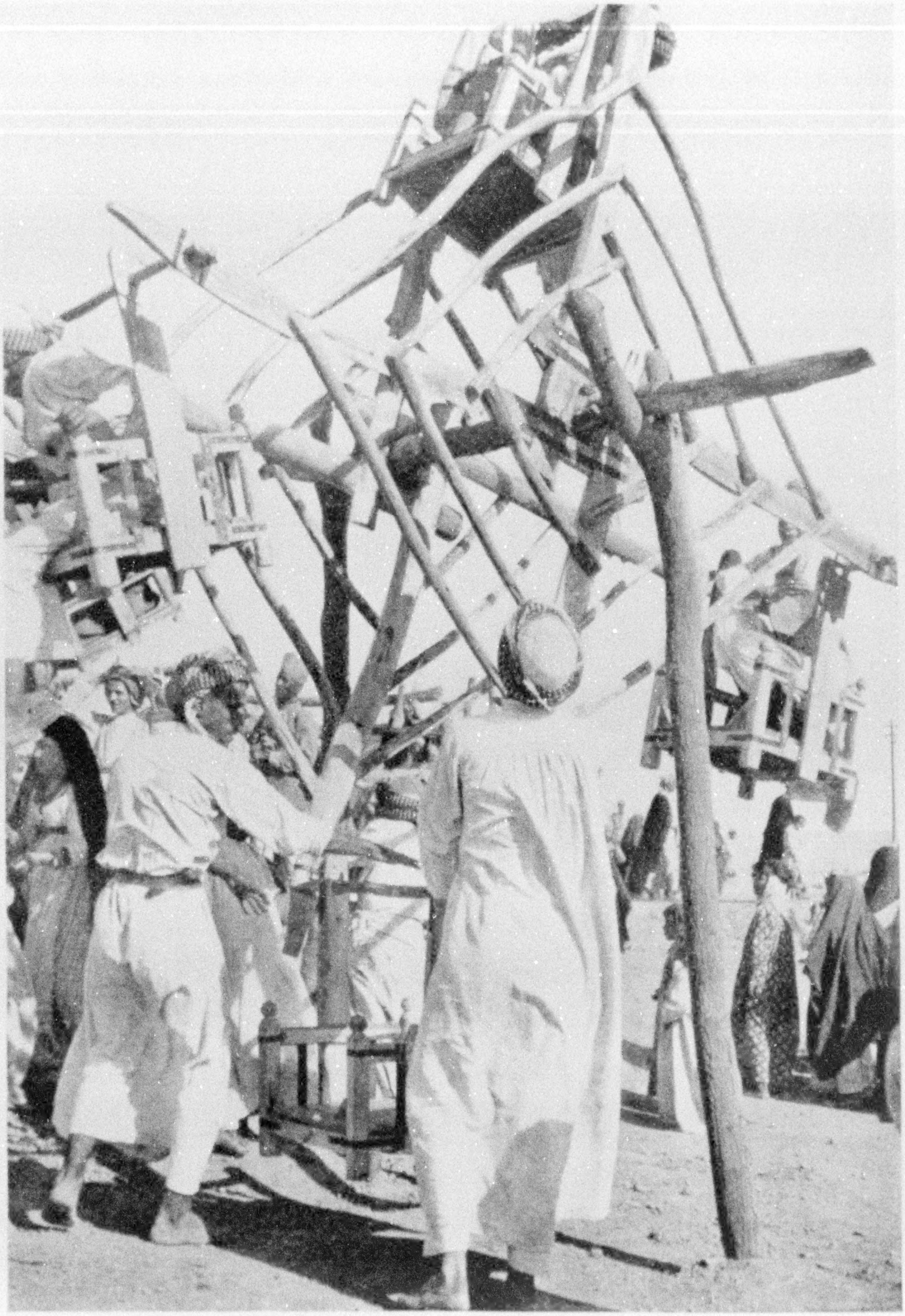


Photograph by John Claude White

THE PALKHOR CHOIDE MONASTERY, IN THE WALLED TIBETAN CITY OF GYANTSE

Gyantse lay in the line of the British advance into Tibet in 1904. Its jong, or fort, was considered impregnable by the Tibetans, but the attacking force under General MacDonald succeeded in hammering a breach in the walls and capturing the stronghold. This left the road open to the capital of the Dalai Lama, the Forbidden City of Lhasa.

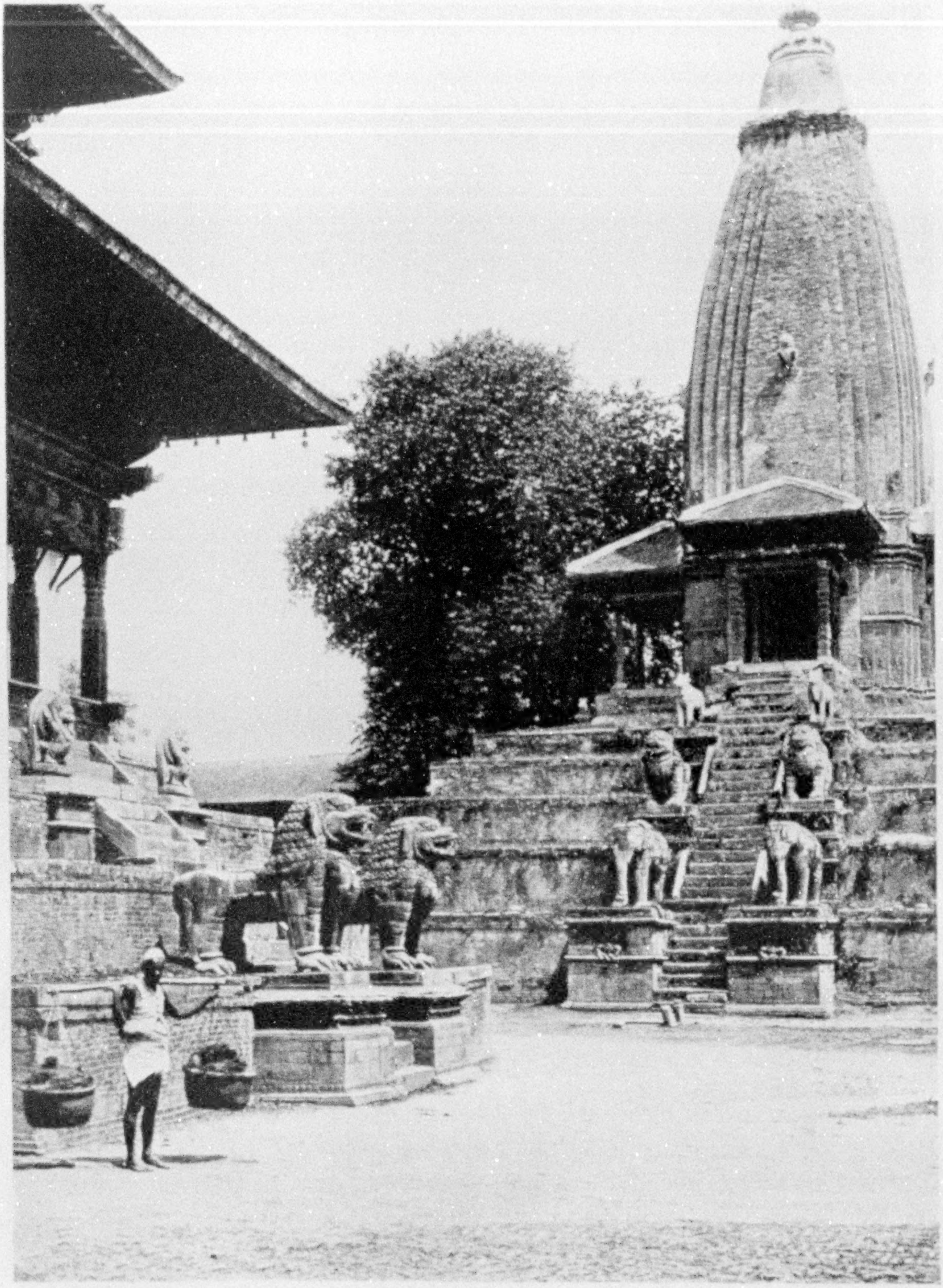
XUM



Photograph by Eric Keast Burke

AN ARAB-MADE FERRIS WHEEL IN BAGDAD

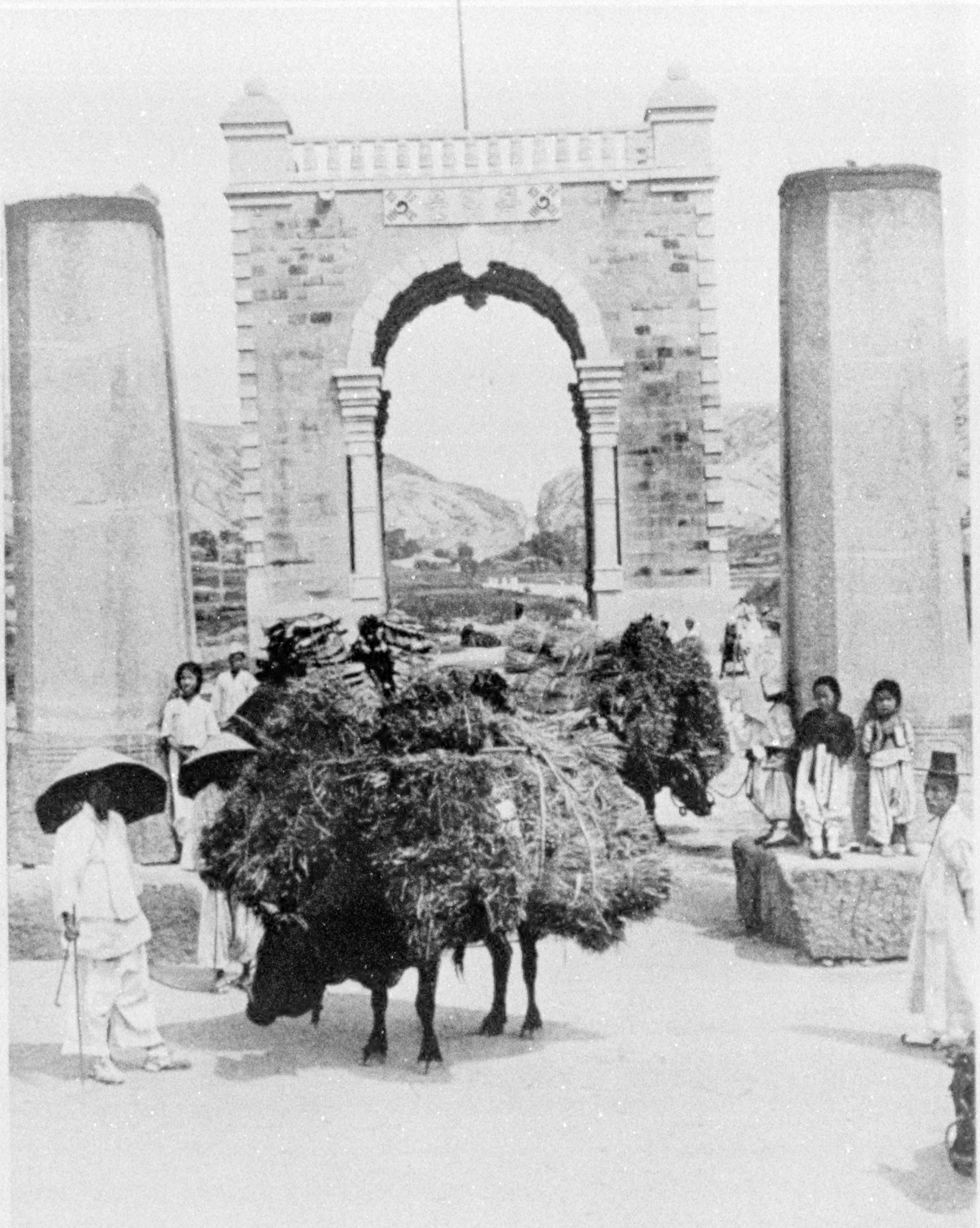
On festival occasions such crude devices spring up in the outskirts of the City of Caliphs and prove a popular diversion for Arab children. The motive power is, of course, manual. Note the similarity of these vertical merry-go-rounds to the fête wheels of Eastertide in Irkutsk, Siberia (see illustrations, pages 488 and 489).



Photograph by John Claude White

STRANGE BEASTS OF STONE GUARD THE TEMPLE STEPS AT BHATGAON, NEPAL

The Kingdom of Nepal has the distinction of owning the world's highest peak, Mt. Everest. Bhatgaon, an ancient capital city, possesses some of the most interesting shrines in Asia. Most of these are built of fine red brick. The ornamentation is generally of molded brick of the same color, with dark wood for overhanging windows and doorways.

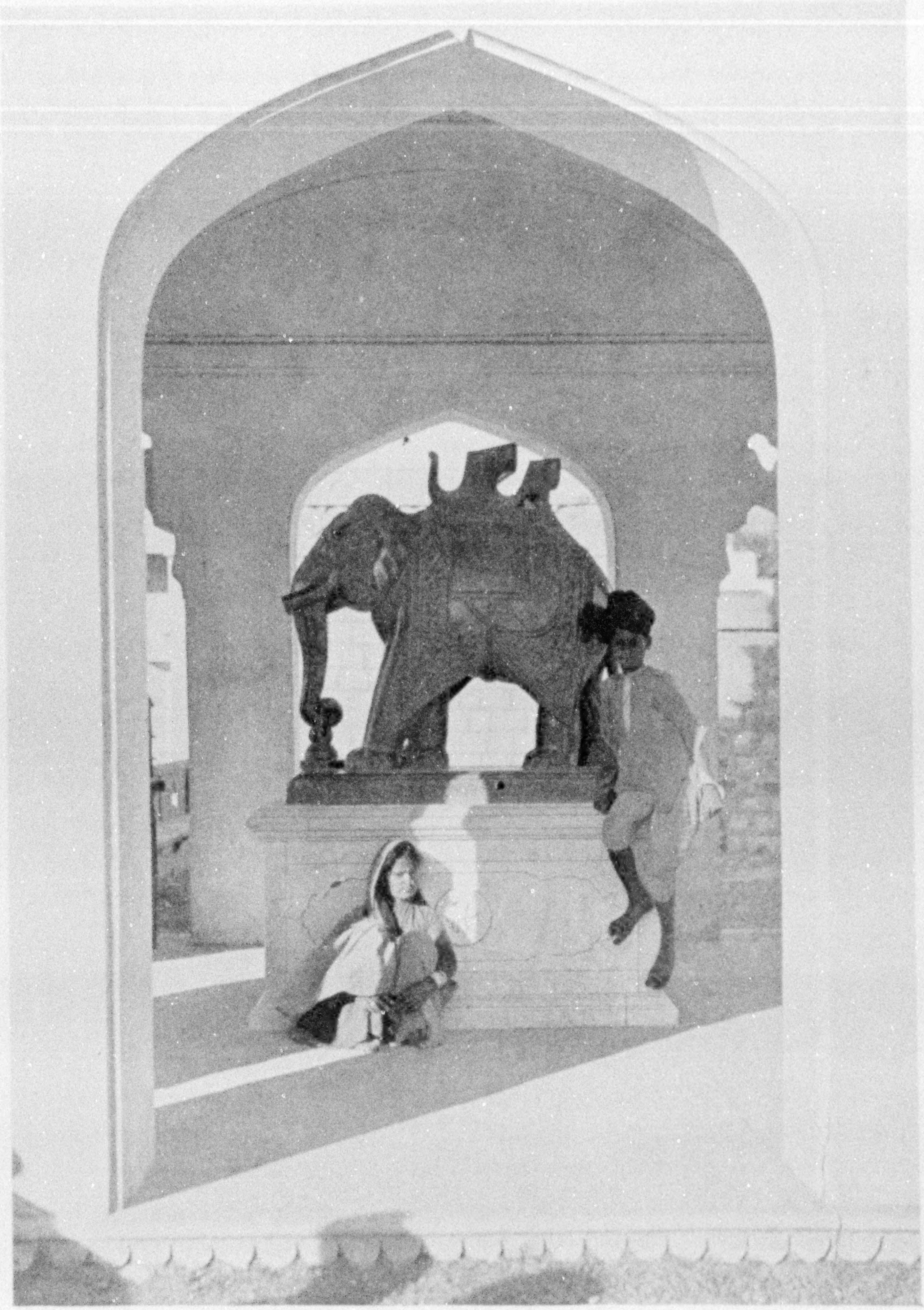


© Underwood & Underwood

IN KOREA, THE LAND OF "MORNING FRESHNESS"

Natives from the rural districts surrounding Seoul enter the capital by passing under the new Independence Arch. Note the queer umbrella hats and white suits of the men at the left and the familiar pill-box headgear worn by the man at the right. The ox-caravan is laden with fuel for the city.

XUM

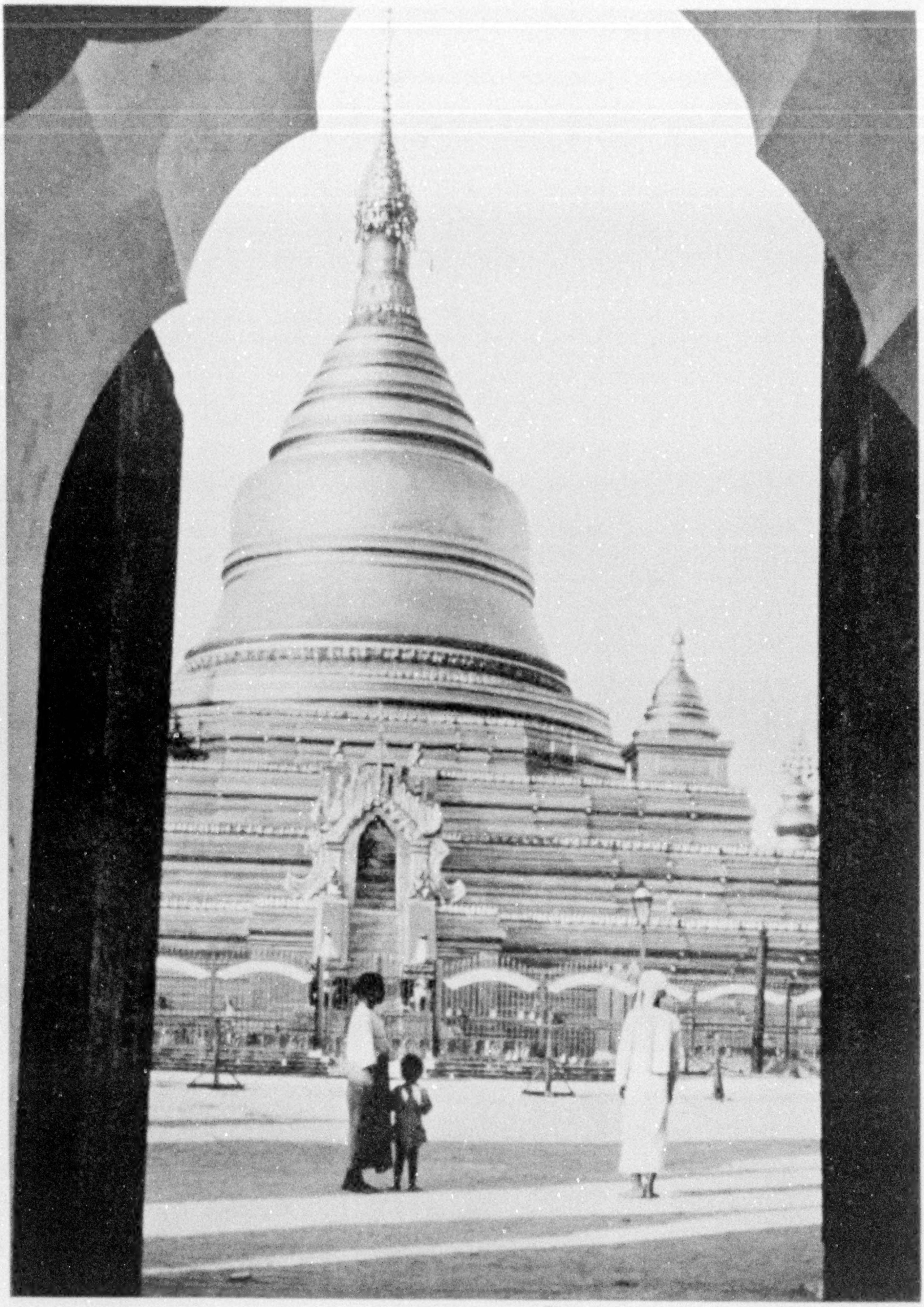


Photograph by Maynard Owen Williams

MARBLE CENOTAPH TO A FAVORITE ELEPHANT OF A MAHARAJAH

Beside the road which leads from Jaipur to the ancient capital of Jaipur State at Amber, there is, among numerous monuments to deceased wives, this costly reminder of one of the dumb servants whose faithfulness is thus rendered memorable. There are a thousand living candidates for burial in this cemetery of the Maharajah's favorite wives.

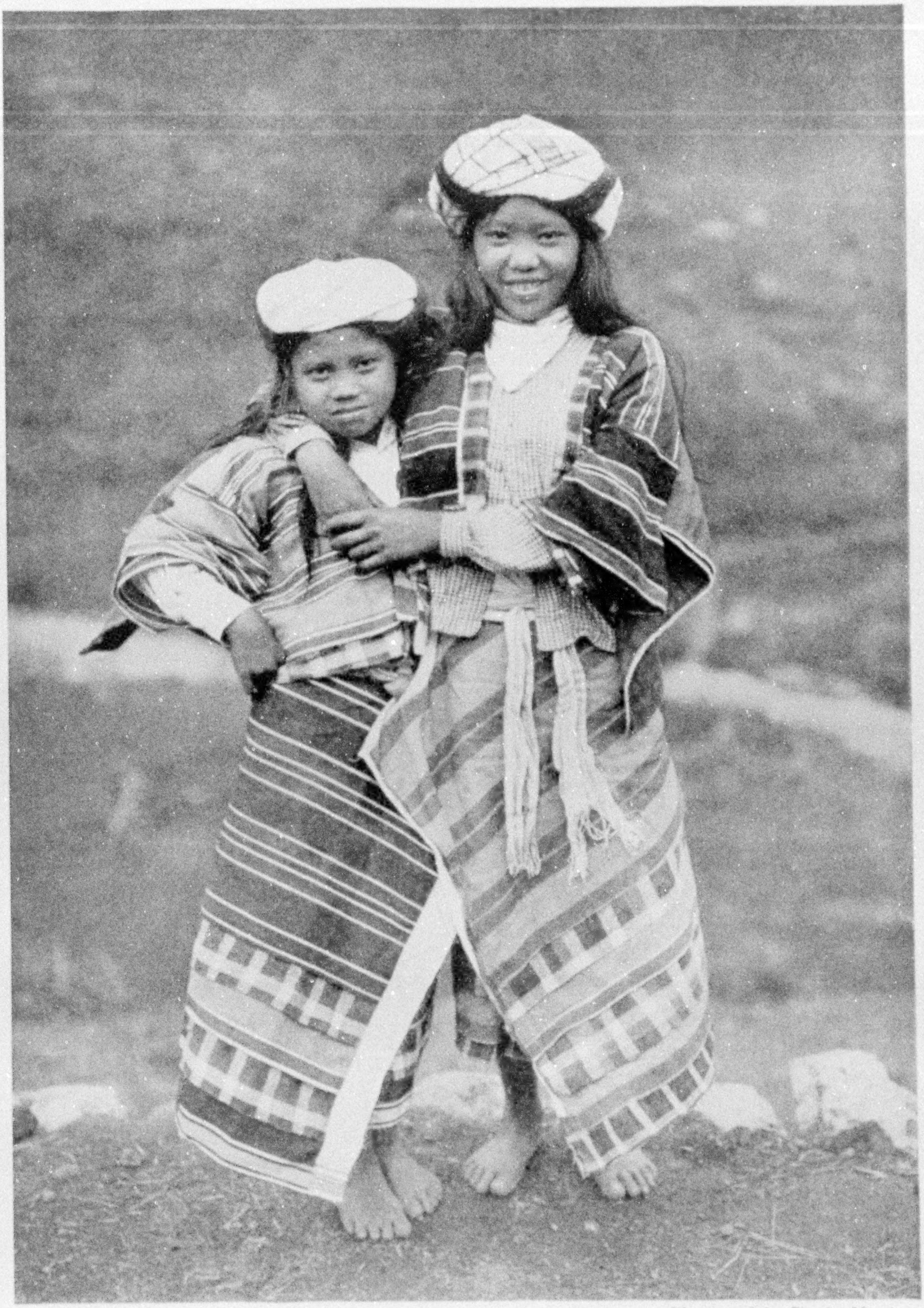
XUM



Photograph by Dr. Edward Burton MacDowell

AT THE END OF THE ROAD TO MANDALAY

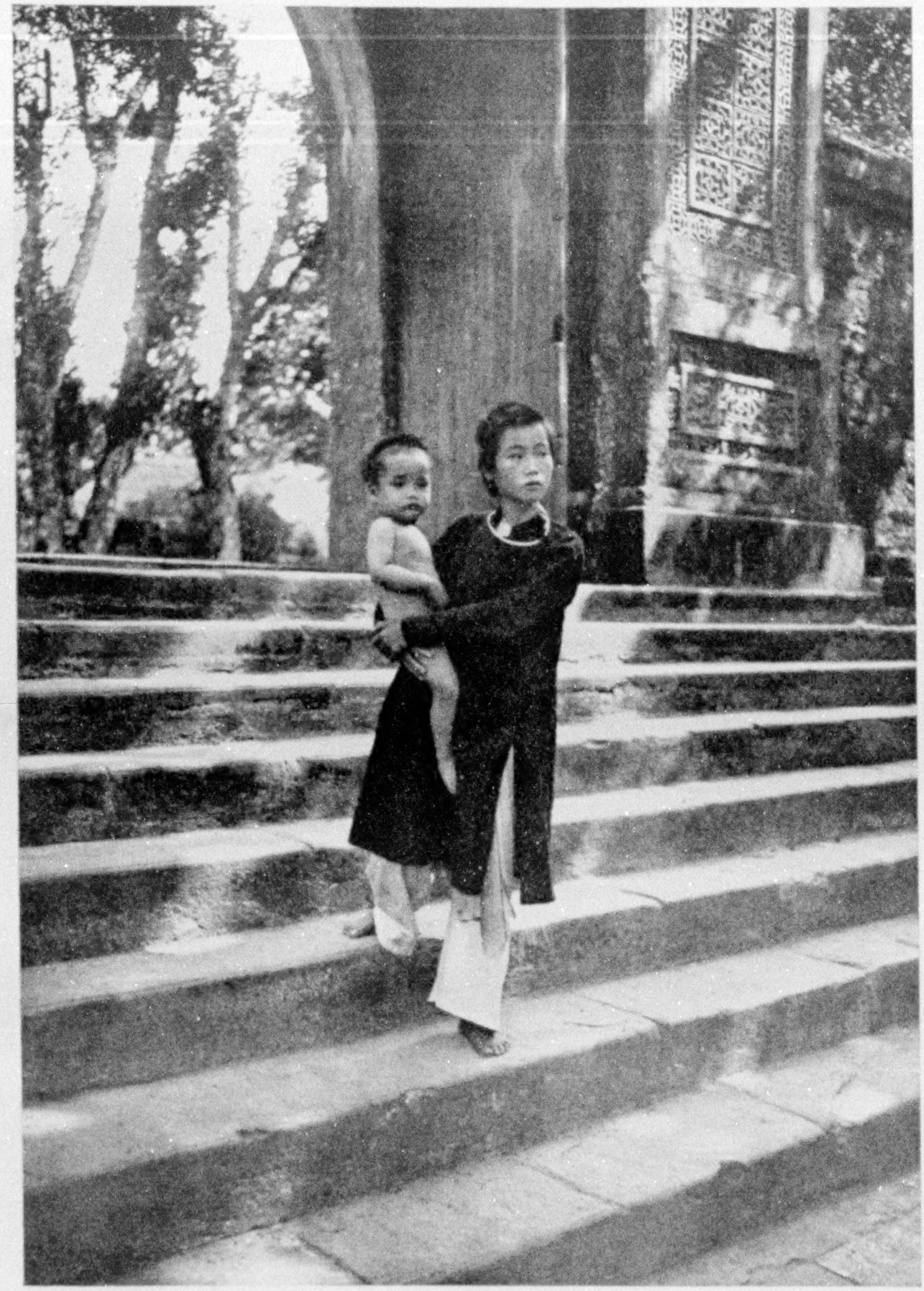
In Burma the chief objects of interest to the Western traveler are the graceful pagodas. The Burmese pagoda consists of a masonry terrace, above which rises a bell-shaped structure crowned by a "ti," or umbrella spire, formed of concentric rings of metal, from which are suspended innumerable tiny bells that sway and tinkle musically in the wind.



Photograph by Charles Martin

BENGUET IGOROT GIRLS OF THE PHILIPPINE ISLANDS

Many of the kinsmen of these gentle maids were formerly among the wildest of head-hunters in northern Luzon, but today the members of their tribe are in the main industrious and skillful farmers, planting grain and potatoes on ancient artificial terraces and successfully practicing irrigation.



Photograph from M. Branger and Sons

SUNSHINE AND SHADOW ON TEMPLE STAIRS IN ANNAM

Both the men and women of Annam wear wide trousers and long black tunics with narrow sleeves. Their country is a narrow ribbon of land, 800 miles long, on the eastern coast of the Indo-Chinese peninsula. France exercises a protectorate over the 6,000,000 natives.

XUM

former status as a part of Turkey in Asia.*

The Kingdom of Hedjaz, over which rules Husein Ibn Ali, Hereditary Keeper of the Holy Places (Mecca and Medina), extends along the northeast shore of the Red Sea, from the principate of Asir to the southwestern frontier of Palestine. It has an area about equal in extent to that of the State of Colorado and a population of some 750,000. Its capital and chief seaport is Jidda, a town of 30,000 inhabitants.

RUSSIA IN ASIA AN UNSETTLED PROBLEM

Of that vast territory formerly known as Russia in Asia, embracing Siberia, Transcaucasia, Turkestan, and the Steppes provinces, aggregating an area of more than 6,290,000 square miles (more than three times as large as Russia in Europe), but sustaining a population of only twenty-seven millions — barely four persons to the square mile—little can as yet be said with respect to its political future, and even the reports concerning its present status are vague and contradictory.

Out of Transcaucasia three republics evolved — Azerbaijan, Georgia, and, in part, Armenia. Their existence was tempestuous and short-lived. Whether, when the tide of Bolshevism recedes, they will be able to establish their interdependence as a Transcaucasus governmental trilogy none can say. The boundaries indicated on the accompanying map are merely indicative of their approximate extent as originally conceived.

For a speculative discussion of the possible future of the "United States of Siberia and Russian Turkestan," the reader is referred to the admirable article by Viscount Bryce, under the title "Western Siberia and the Altai Mountains," in this number of The Geographic (pages 469 to 507).

JAPAN ASSUMES KIAOCHOW LEASE

The transfer of German treaty rights in the Chinese province of Shantung (Kiaochow and Tsingtao) to Japan is a cause célèbre of recent diplomatic history. The town, harbor, and district of Kiaochow, embracing an area of some 200 square miles, exclusive of the bay, which has an area of an additional 200 square miles, were seized by Germany in November, 1897, and in the following March were transferred by treaty to the latter under a 99-year lease. A month later the district was declared a protectorate of Germany and remained as such until November, 1914, when it was captured and occupied by Japanese forces.

Despite China's contention at the Paris Peace Conference that there should be a restitution of this leased territory to her, together with a cancellation of all Germany's economic privileges, by the Treaty of Versailles the "lease" was transferred to Japan on the ground of conquest. It was for this reason that China refused to become signatory to the treaty with Germany, and the whole question constitutes in Asia a "sore spot" similar to the score or more which now pock-mark the face of the political map of Europe.

Before the influx of the Japanese, the Kiaochow district had a population of about 200,000. Surrounding the district and bay is a so-called neutral zone of about 2,500 square miles, with 1,200,000 inhabitants.

AMERICA'S INTEREST IN YAP

In addition to her acquisition of the Kiaochow leased district, Japan's spoils from the World War include the formerly German-owned Marshall Archipelago, the Marianas or Ladrone Islands, the Pelew Group, and the Carolines, including the much-discussed Island of Yap, important from an American standpoint as a connecting link for cables between San Francisco, Hawaii, Guam, the Philippines, China, and the Dutch East Indies.

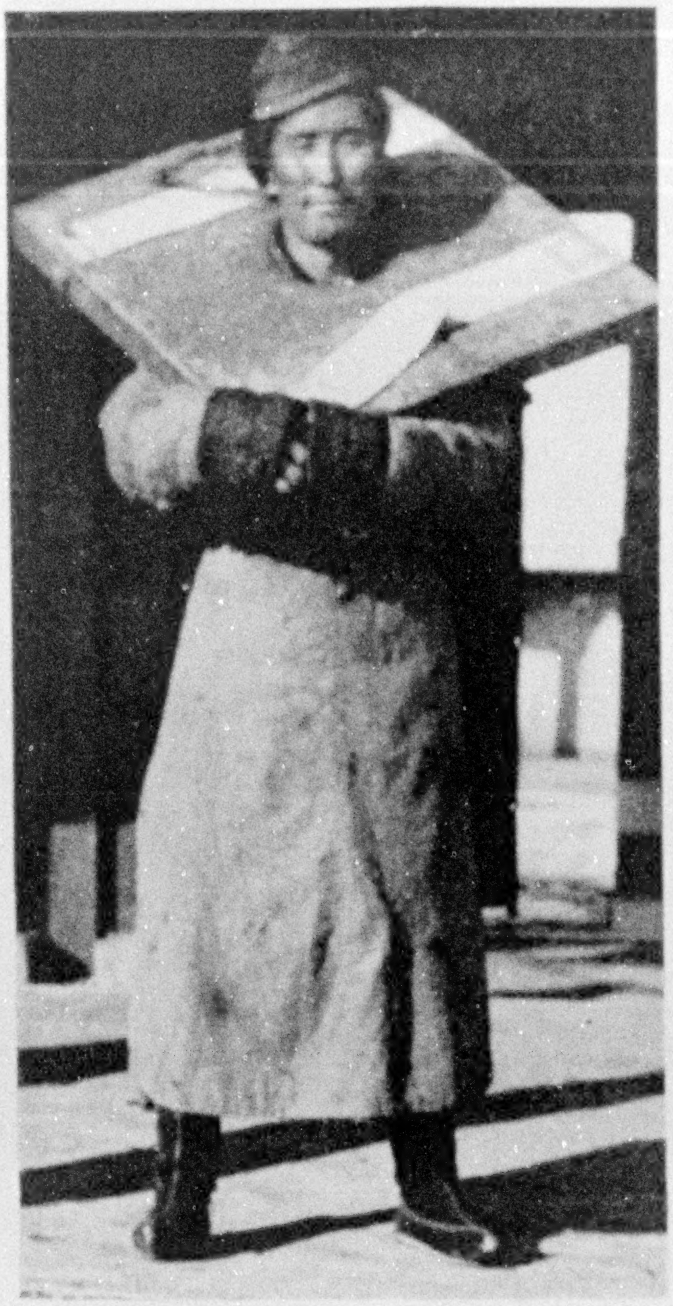
The Carolines consist of 500 coral islets, supporting some ten thousand inhabitants; the Pelews are about twenty-six in number, with 3,000 natives; and the fifteen Marianas have 2,600 inhabitants. The Marshalls consist of two chains of some twenty-five lagoon islands, supporting a population of 15,000.

When the American Pacific cable was laid, at the beginning of the twentieth century, from San Francisco to the Philippines by way of Hawaii, the Mid-

---

* See also "The New Map of Europe," in the National Geographic Magazine for February, 1921.

XUM



Photograph by Eugene Lee Stewart

A MONGOLIAN HORSE THIEF SERVING A THREE MONTHS' SENTENCE

The wooden collar, which is bolted together to make certain that it will not come off, is not removed during the three months, and the prisoner gets what rest he can by sitting down and leaning back against a post or wall. On the white strips of cloth is written in Mongolian an account of his crime. During the daytime he is obliged to keep himself on display in front of the prison (under guard), so that his fellow-men may observe the penalty for stealing horses (see pages 507-551).

way Islands and Guam (7,846 miles), a branch line was laid from Guam to Yap. From the latter, lines now radiate to Japan, to Shanghai, and to the Dutch East Indies.

Yap is intrinsically interesting as well as commercially important. The westernmost of the Western Carolines, it is situated some 500 miles southwest of Guam and 800 miles east of Mindanao, of the Philippine group. The arrival of Australian troops in October, 1914, prevented the Germans from erecting a wireless station here, which would have been of great service in communicating with the commerce raider *Emden*, then abroad on the highways of the Pacific.

Although surrounded by an atoll, Yap is of volcanic origin. Its only good harbor is Tomil Bay. Its pseudonym, "the Island of Stone Money," is derived from the fact that native wealth is reckoned in pounds or tons of limestone discs, brought from Babeltop, 300 miles distant. A single "coin" four feet in diameter is said to represent a value of 10,000 coconuts. The coconut is the unit of value, for copra is the only article of export.

THE EAST IS NO LONGER "CHANGELESS"

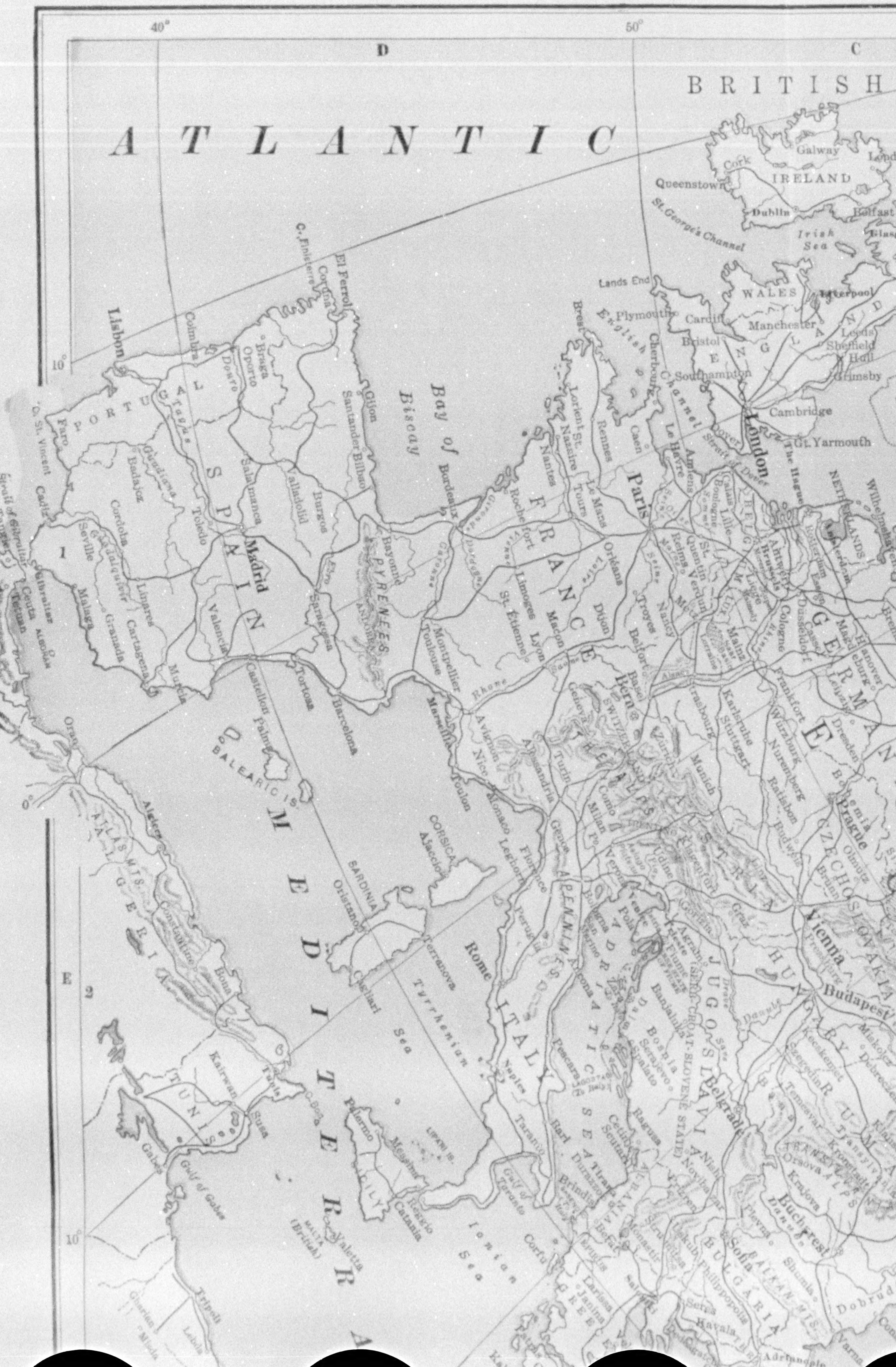
The natives of Yap, some 7,000 in number, are safely catalogued as Micronesians, a term which embraces a variety of peoples of Melanesian, Polynesian, and Malaysian stocks. They have light coffee-colored skins and wavy black hair, dark eyes, and prominent cheek-bones, and are neither as tall nor so strongly built as the natives of Samoa, the Fiji Islands, or Tahiti. They are a docile, kindly, indolent people.

Two portentous agencies are at work in the Orient, and until they become relatively quiescent, political boundaries throughout the great continent will be "subject to change without notice." One of these is the disruptive force in peasant Russia, now felt not only in Siberia, in Russian Turkestan, and in the Transcaucasus, but also in Persia. The other is Japan, whose natural desire, based on need for territorial expansion, has resulted in a reaching out into China and eastern Siberia and into the islands of the Pacific north of the Equator.

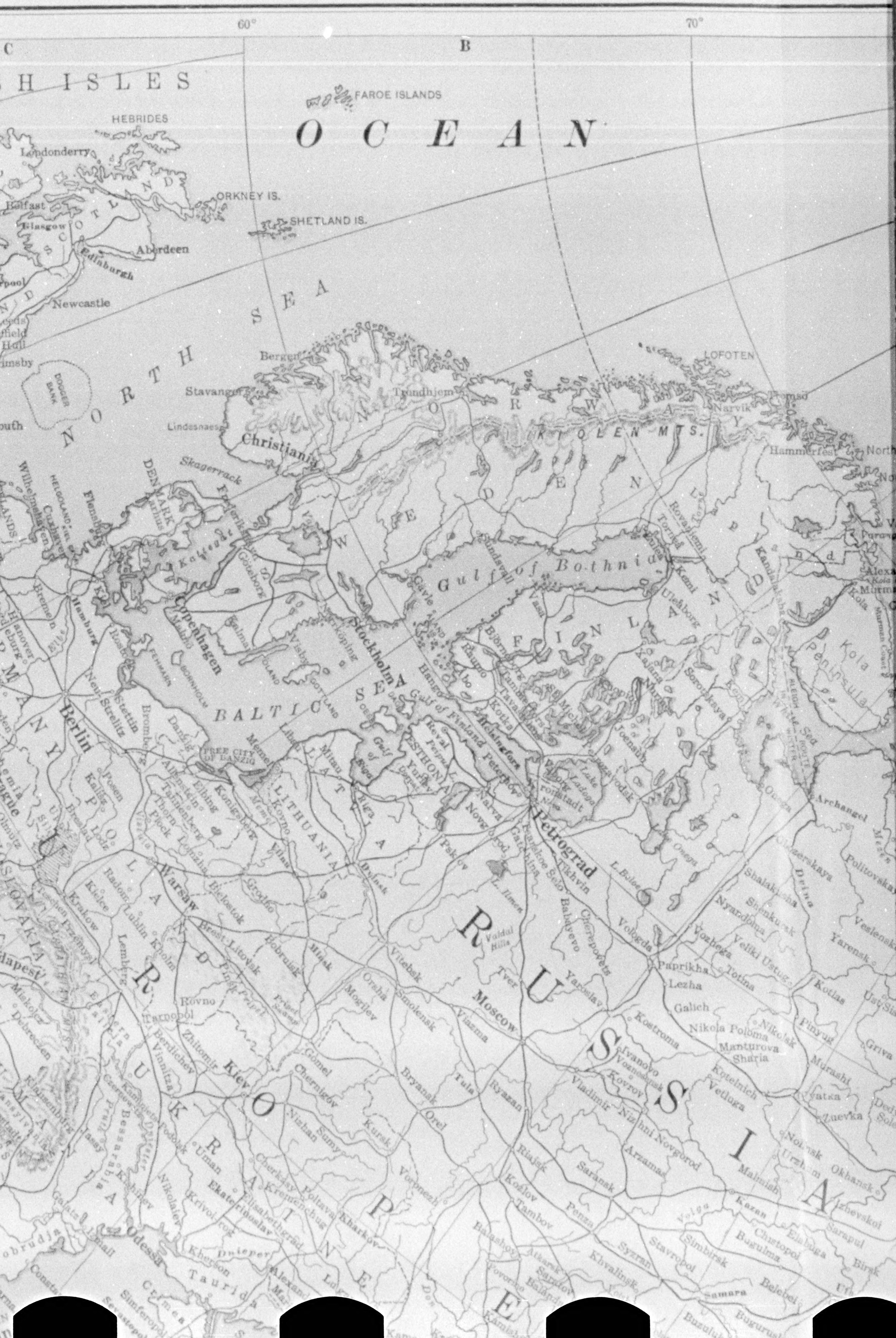
Asia is no longer the "Changeless East"; it is the Continent of Ceaseless Change.

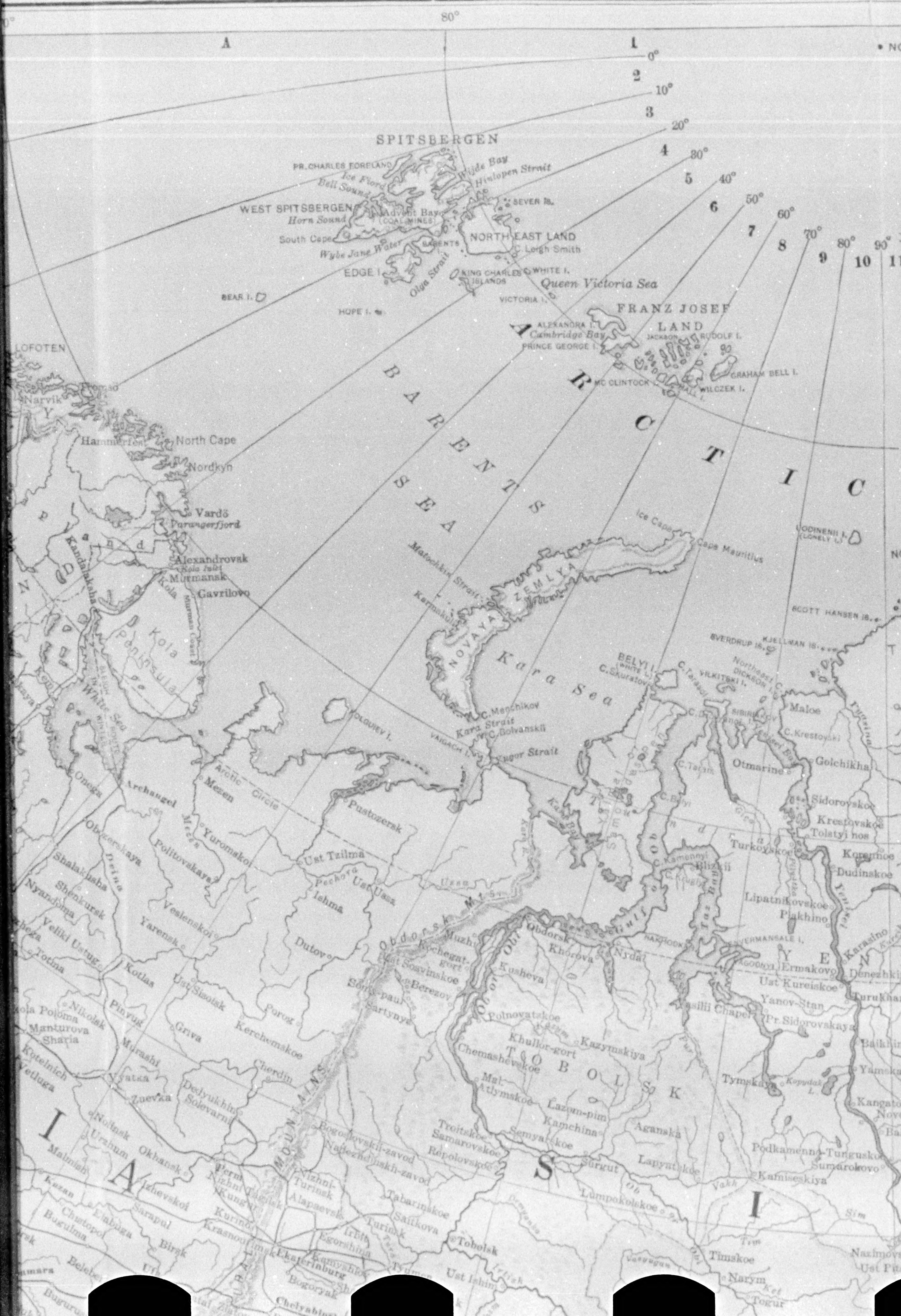
Notice of change of address of your GEOGRAPHIC MAGAZINE *should be received in the office of the National Geographic Society by the first of the month to affect the following month's issue. For instance, if you desire the address changed for your July number, the Society should be notified of your new address not later than June first.*

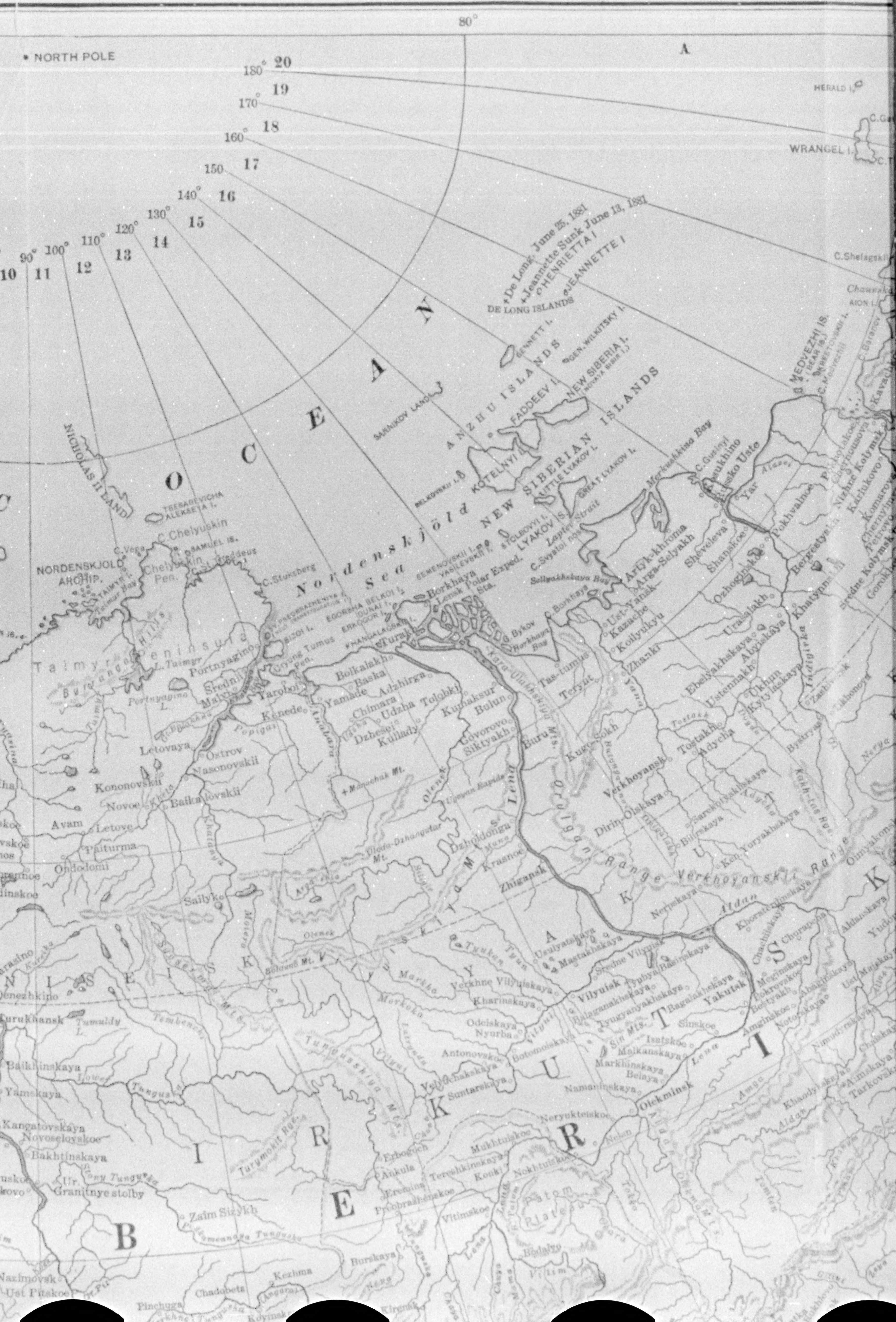
UM



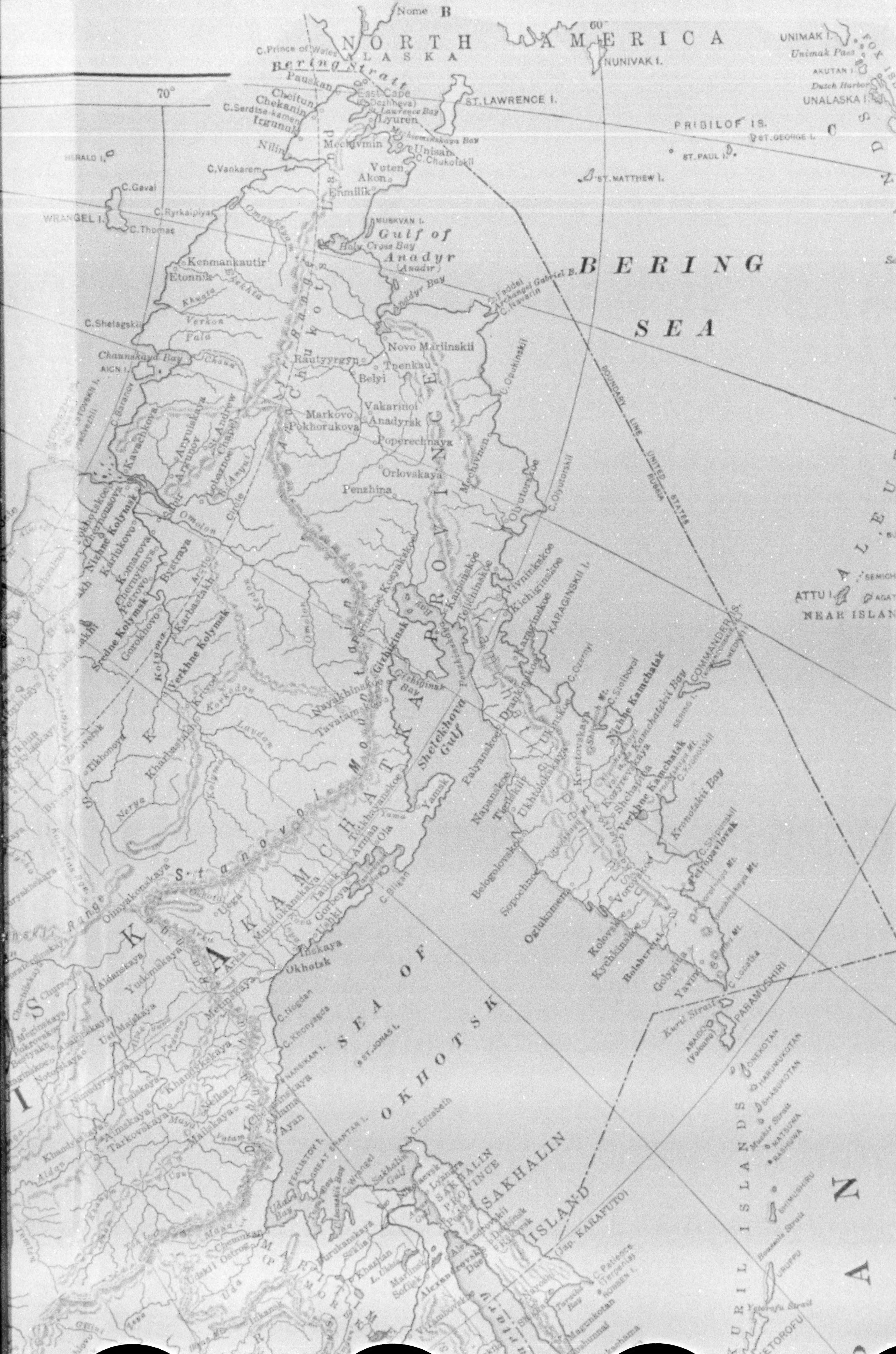
40°
50°
D
C
E
1
2
10°
0°
ATLANTIC
BRITISH
IRELAND
Galway
Cork
Queenstown
Dublin
Belfast
Irish Sea
St. George's Channel
Lands End
Plymouth
WALES
Cardiff
Bristol
Liverpool
Manchester
Leeds
Sheffield
Hull
Grimsby
ENGLAND
Southampton
London
Cambridge
Gt. Yarmouth
Dover
Strait of Dover
The Hague
NETHERLANDS
Amsterdam
Rotterdam
Wilhelmshaven
English Channel
Brest
Cherbourg
Le Havre
Caen
Rennes
Lorient
St. Nazaire
Nantes
Tours
Le Mans
Amiens
Paris
Calais
Lille
Boulogne
St. Quentin
Reims
Verdun
Metz
Nancy
Troyes
Orléans
Dijon
Belfort
Rochefort
Limoges
St. Etienne
Lyon
Macon
Bordeaux
Toulouse
Montpellier
Marseille
Avignon
Nice
Monaco
Toulon
FRANCE
Bay of Biscay
BELGIUM
Brussels
Antwerp
Liége
LUX
Cologne
Düsseldorf
Mainz
Frankfort
Strasbourg
Karlsruhe
Stuttgart
Würzburg
Nuremberg
Munich
Ratisbon
Hanover
Magdeburg
Leipzig
Dresden
GERMANY
Basel
Bern
Zurich
Geneva
SWITZERLAND
THE ALPS
Turin
Alessandria
Genoa
Como
Milan
Verona
Venice
Udine
Bologna
Florence
Leghorn
Perugia
Ancona
Rome
Naples
Taranto
Bari
Brindisi
Pescara
APENNINES
ITALY
AUSTRIA
Vienna
Graz
Budweis
Bohemia
Prague
Olmütz
Brünn
Pressburg
CZECHOSLOVAKIA
Budapest
HUNGARY
Kecskemet
Szegedin
Debreczen
Miskolcz
Temesvar
RUMANIA
TRANSYLVANIAN ALPS
Kronstadt
Orsova
Krajova
Bucharest
Danube
Drave
Save
Agram
Fiume
Trieste
Banjaluka
Bosnia
Serajevo
Spalato
Ragusa
Cetinje
Scutari
Tirana
Durazzo
Belgrade
Nish
Novibazar
JUGOSLAVIA
SERB-CROAT-SLOVENE STATE
ADRIATIC SEA
Sofia
Philippopolis
Plevna
Shumla
BULGARIA
BALKAN MTS.
Varna
Adrianople
Dobrudja
Uskub
Monastir
Seres
Kavala
Salonika
Larissa
Janina
Corfu
GREECE
Patras
Corinth
Kalamata
TURKEY IN
Ionian Sea
PORTUGAL
Lisbon
Coimbra
Oporto
Braga
Douro
Tagus
Faro
C. St. Vincent
Cadiz
Strait of Gibraltar
Tangier
Gibraltar
Ceuta
Tetuan
ALBORAN
El Ferrol
Corunna
C. Finisterre
Gijon
Santander
Bilbao
Valladolid
Burgos
Salamanca
Madrid
Toledo
Badajoz
Cordola
Seville
Guadiana
Guadalquivir
Malaga
Granada
Linares
Cartagena
Murcia
Valencia
Saragossa
Ebro
Castellon
Tortosa
Barcelona
SPAIN
PYRENEES
ANDORRA
Bayonne
Palma
BALEARIC IS.
Oran
Algiers
ATLAS MTS.
ALGERIA
Constantine
Bona
Tunis
Kairwan
Susa
Gabes
Gulf of Gabes
TUNIS
C. Bon
Tripoli
Lebda
Gharian
Misda
CORSICA
Ajaccio
SARDINIA
Oristano
Terranova
Cagliari
Tyrrhenian Sea
LIPARI IS.
Palermo
Messina
Reggio
Catania
SICILY
MALTA (British)
Valetta
Gulf of Taranto
MEDITERRANEAN

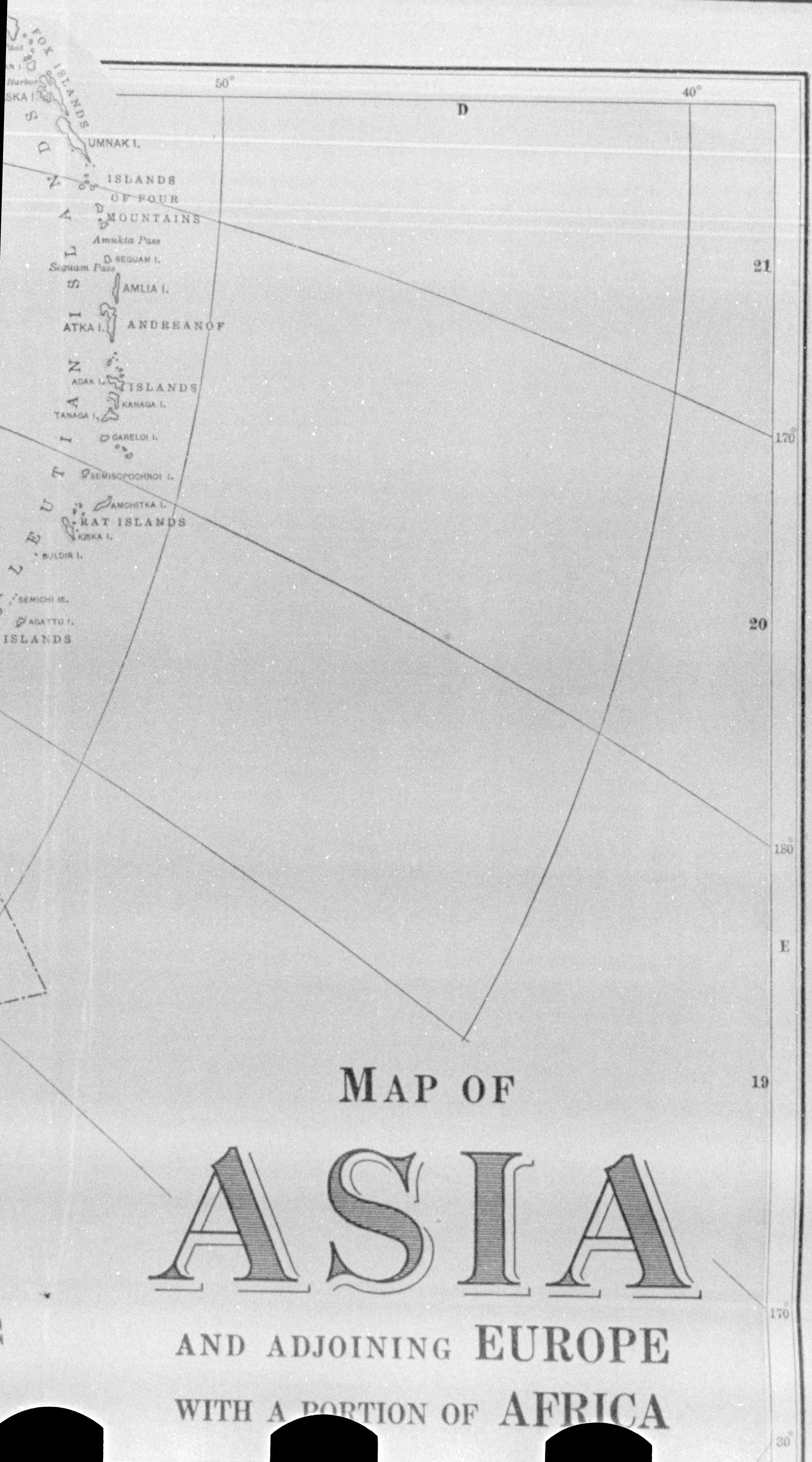

60°
70°
C
B
BRITISH ISLES
FAROE ISLANDS
OCEAN
HEBRIDES
Londonderry
SCOTLAND
ORKNEY IS.
SHETLAND IS.
Belfast
Glasgow
Aberdeen
Edinburgh
Newcastle
Leeds
Hull
Grimsby
DOGGER BANK
NORTH SEA
Bergen
Stavanger
Trondhjem
Lindesnaes
Christiania
NORWAY
LOFOTEN
Narvik
Tromsö
Hammerfest
KIOLEN MTS.
SWEDEN
Skagerrack
DENMARK
Aarhus
Kattegat
Frederikshavn
Göteborg
Copenhagen
Malmö
Flensburg
Wilhelmshaven
Cuxhaven
HELIGOLAND
Hamburg
Bremen
Hanover
Berlin
Stettin
Rostock
Neu-Strelitz
GERMANY
BORNHOLM
Kalmar
Visby
GOTLAND
ÖLAND
Norrköping
Stockholm
Gefle
Sundsvall
Gulf of Bothnia
Vasa
Uleåborg
Torneå
Kemi
Rovaniemi
LAPLAND
Kandalaksha
Kola
Kola Peninsula
Murman Coast
White Sea
Archangel
FINLAND
Åbo
Björneborg
Tammerfors
Tavastehus
Kotka
Helsingfors
Hangö
St. Michel
Joensuu
Kajana
Sorokskaya
Petrozavodsk
Lake Ladoga
Viborg
Kronstadt
Petrograd
Peterhof
BALTIC SEA
Gulf of Finland
ÖSEL
Gulf of Riga
Reval
ESTHONIA
Yuryev
Narva
Riga
LATVIA
Libau
Memel
Mitau
Königsberg
FREE CITY OF DANZIG
Danzig
Elbing
Allenstein
Tannenberg
Bromberg
Posen
Thorn
Plock
LITHUANIA
Kovno
Vilna
Dvinsk
Pskov
Novgorod
L. Ilmen
Gatchina
Tsarskoe Selo
Tikhvin
L. Beloe
Vologda
Cherepovets
Babayevo
Valdai Hills
Tver
Moscow
Yaroslav
Kostroma
RUSSIA
POLAND
Warsaw
Grodno
Bielostok
Lomza
Brest-Litovsk
Pinsk
Bobruisk
Minsk
Vitebsk
Orsha
Mogilev
Smolensk
Viazma
Radom
Lublin
Kholm
Kielce
Krakow
Lemberg
Rovno
Tarnopol
Zhitomir
Berdichev
Vinnitsa
Kiev
UKRAINE
Chernigov
Gomel
Nizhan
Sumy
Kursk
Bryansk
Orel
Tula
Ryazan
Vladimir
Kovrov
Ivanovo Voznesensk
Nizhni Novgorod
Arzamas
Saransk
Penza
Riajsk
Kozlov
Tambov
Balashov
Saratov
Syzran
Khvalinsk
Stavropol
Simbirsk
Samara
Kazan
Malmish
Chistopol
Elabuga
Bugulma
Belebei
Birsk
Sarapul
Izhevsk
Okhansk
Nolinsk
Urzhum
Vyatka
Kotelnich
Vetluga
Sharia
Manturova
Nikola Polomа
Nikolsk
Galich
Lezha
Paprikha
Vozhega
Totma
Veliki Ustug
Nyandoma
Shenkursk
Shalakusha
Onega
Obozerskaya
Politovskaya
Yarensk
Kotlas
Pinyug
Murashi
Luevka
Griva
Ust Sisolsk
Veslensk
Mezen
Voronezh
Kharkov
Poltava
Kremenchug
Cherkasy
Elisabethgrad
Ekaterinoslav
Krivoi Rog
Kherson
Nikolaiev
Odessa
Uman
Podolsk
Bessarabia
Kishinev
Jassy
Kolomyja
Transylvania
Debreczen
Miskolcz
Budapest
CZECHOSLOVAKIA
Teschen
Przemysl
Olmütz
Prague
Bohemia
Galatz
Ismail
Dobrudja
Constantsa
Dnieper
Taurida
Crimea
Simferopol
Sevastopol
Alexandrovsk
Don
Volga
ROMANIA


80°
A
1
0°
2
10°
3
20°
4
30°
5
40°
6
50°
7
60°
8
70°
9
80°
10
90°
SPITSBERGEN
PR. CHARLES FORELAND
Ice Fiord
Bell Sound
Wijde Bay
Hinlopen Strait
WEST SPITSBERGEN
Horn Sound
Advent Bay
(COAL MINES)
SEVER IS.
South Cape
Wybe Jane Water
BARENTS
NORTH EAST LAND
C. Leigh Smith
EDGE I.
Olga Strait
KING CHARLES ISLANDS
C. WHITE I.
Queen Victoria Sea
BEAR I.
HOPE I.
VICTORIA I.
FRANZ JOSEF
LAND
ALEXANDRA I.
Cambridge Bay
PRINCE GEORGE I.
JACKSON
RUDOLF I.
GRAHAM BELL I.
MC CLINTOCK I.
WILCZEK I.
ARCTIC
LOFOTEN
Tromsö
Narvik
Hammerfest
North Cape
Nordkyn
Vardö
Varangerfjord
BARENTS SEA
Alexandrovsk
Kola Inlet
Murmansk
Kola
Gavrilovo
Murman Coast
Kola Peninsula
Kandalaksha
White Sea
Lapland
Ice Cape
Cape Mauritius
ODINENII I. (LONELY I.)
Matochkin Strait
Karmakuly
NOVAYA ZEMLYA
SCOTT HANSEN IS.
SVERDRUP IS.
KJELLMAN IS.
Kara Sea
BELYI I.
C. Skuratov
C. Tarasol
VILKITSKI I.
Northeast C.
DICKSON I.
SIBIRIAKOV I.
Maloe
C. Krestovski
Yenisei Bay
C. Menchikov
Kara Strait
C. Bolvanskii
KOLGUEV I.
VAIGACH I.
Yugor Strait
C. Tarm
Otmarine
Golchikha
Onega
Archangel
Arctic Circle
Mezen
Kara Bay
Pustozersk
C. Belyi
Sidorovskoe
Krestovskoe
Tolstyi nos
Obozerskaya
Dvina
Yuromskoi
Politovskaya
Ust Tzilma
Pechora
Ust Usa
Usa
Turkovskoe
Korennoe
Dudinskoe
Shalakusha
Shenkursk
Nyandoma
Veslenskoi
Ishma
Gulf of Ob
C. Kamenyi
Blizkii
Taz Bay
Lipatnikovskoe
Plakhino
Yenisei
Yarensk
Veliki Ustug
Totma
Dutovo
Obdorsk Mts.
Muzhi
Kochegatgort
Obdorsk
Khorova
Nydai
NAKHODKA
YERMANSALE I.
AGODOYI
Ermakovo
Karasino
Denezhkino
Kotlas
Ust Sisolsk
Ust Sosvinskoe
Berezov
Sortyn-paul
Sartynya
Kusheva
Ust Kureiskoe
Turukhansk
Kolpashevo
Nikolsk
Manturova
Sharia
Kotelnich
Vetluga
Pinyug
Murashi
Vyatka
Zuevka
Porog
Griva
Kerchemskoe
Cherdin
Polnovatskoe
Kazym
Kazymskaya
Khullor-gort
Chemashevskoe
TOBOLSK
Mal. Atlymskoe
Lazen-pim
Kamchina
Vasilii Chaper
Yanov-Stan
Pr. Sidorovskaya
Baikha
Yamskaya
Tymskaya
Kopydak L.
Kangatovo
Delyukhina
Solevarni
Nolinsk
Urzhum
Malmizh
Okhansk
Izhevskoi
URAL MOUNTAINS
Bogoslovskii-zavod
Nadezhdinskii-zavod
Troitskoe
Samarovskoe
Repolovskoe
Semyarskoe
Surgut
Aganska
Lapyntskoe
Podkamenna-Tunguskoe
Sumarokovo
Kamiseskiya
Perm
Nizhni Tagilsk
Kungur
Nizhni-Turinsk
Alapaevsk
Tabarinskoe
Saitkova
Lumpokolskoe
Vakh
Sim
Kazan
Elabuga
Sarapul
Chistopol
Bugulma
Birsk
Kurinsk
Krasnoufimsk
Ekaterinburg
Irbit
Egorshina
Turinsk
Tobolsk
Kamyshlov
Tura
Tyumen
Ust Ishim
Irtish
Timskoe
Narym
Ket
Togur
Ob
Nazimovo
Ust Pit
Bogoryak
Chelyabinsk
Belebei
Samara
Buguruslan
Ufa
IA
SI
I
S
Y E N



80°
NORTH POLE
A
180° 20
19
170°
18
160°
17
150°
16
140°
15
130°
14
120°
13
110°
12
90° 100°
10
11
HERALD I.
C.Ga
WRANGEL I.
C.T
De Long, June 25, 1881
Jeannette Sunk June 13, 1881
HENRIETTA I.
JEANNETTE I.
DE LONG ISLANDS
C.Shelagski
Chaunsk
AION I.
O C E A N
BENNETT I.
SANNIKOV LAND
ANZHU ISLANDS
GEN. WILKITSKY I.
NEW SIBERIA I.
FADDEEV I.
KOTELNYI I.
BELKOVSKII I.
NEW SIBERIAN ISLANDS
LITTLE LYAKOV I.
GREAT LYAKOV I.
STOLBOVYI I.
LYAKOV IS.
Laptev Strait
C.Svyatoi nos
MEDVEZHI IS.
C.Medvezhii
NICHOLAS II LAND
TSESAREVICHA ALEKSEYA I.
C.Chelyuskin
C.Vega
SAMUEL IS.
NORDENSKJOLD ARCHIP.
Chelyuskin Pen.
C.St.Thaddeus
C.Stuksberg
Nordenskjöld Sea
SEMENOVSKII I.
VASILEVSKII I.
Borkhaya
Lensk Polar Exped. Sta.
Sellyakhskaya Bay
Borkhaya Bay
C.Bykov
Merkushkina Bay
C.Gusinyi
Pokhodsk
Nizhne Kolymsk
Yar
Alazei
Pokhvalnoe
Artyk-khroma
Arga-Selyakh
Shevoleva
Shanskoe
Ust-Yansk
Kazache
Kollyukyu
Ozhogino
Uraalakh
Abyiskaya
Khatyngnakh
Berezetyakh
Sredne Kolymsk
Indigirka
Taimyr Peninsula
Byrranga Hills
L.Taimyr
Portnyagino
Portnyagino L.
Sredni
Malyi
Yarobei
Olenek
Turuk
Bolkalakh
Baska
Yamade
Adzhirga
Chimara
Udzha
Tolgbki
Dzhesej
Kuilady
Kumaksur
Bulun
Govorovo
Siktyakh
Buru
Tas-tumus
Teryut
Kara-Ulakhskiya Mts.
Zhanki
Yana
Ebelyakhskaya
Ustennakh
Ukhun
Kytylaskaya
Zashiversk
Ukhonova
Kenede
Anabara
Popigai
Letovaya
Ostrov
Nasonovskii
Kononovskii
Novoe
Baikalovskii
Khatanga
Avam
Letove
Taiturma
Ondodomi
+ Moguchak Mt.
Ugoyan Rapids
Lena
Olenek
Kugegokh
Verkhoyansk
Tostakh
Adycha
Dirin-Olskaya
Sarskoskiskaya
Biliuskaya
Bytyryk
Kolyma Mts.
Dzholdonga
Muna
Krasnoe
Zhigansk
Verkhoyanskii Range
Ken-Yoryakhskaya
Oimyakonsk
K
Olodo-Dzhangutar Mt.
Sailyk
Kotui
Aldan
Khoratonnimskaya
Churapcha
Ust-Maiskaya
Usoliyatskaya
Mastakhskaya
Sredne Vilyuisk
Baninskaya
Tyukan
Tyun
Markha
Verkhne Vilyuiskaya
Kharinskaya
Vilyuisk
Balaganakhskaya
Yakutsk
Bagainskaya
Tyugyanyakhskaya
Chachaliskaya
Megino
Pokrovskoe
Botyakh
Abaginskaya
Odeiskaya
Nyurba
Sinskoe
Sin Mts.
Isatskoe
Malkanskaya
Markhinskaya
Belaya
Antonovskoe
Botomoinskaya
Namaninskaya
Vilyuchanskaya
Suntarskaya
Olekminsk
Amginskoe
Amga
Aldan
Tungusskiya Mts.
Vilyui
Chona
Neryukteiskoe
Nelon
Tumuldy L.
Turukhansk
Baikhinskaya
Yamskaya
Lower Tunguska
Kangatovskaya
Novoselovskoe
Bakhtinskaya
Stony Tunguska
Ur.
Granitnye stolby
Turymokit Ra.
Erbogoch
Ankula
Tereshkinskaya
Konki
Nokhtuiskoe
Mukhtuiskoe
Eremina
Preobrazhenskoe
Vitimskoe
Patom Plateau
Bodaibo
Vitim
Zaim Sizykh
Podkamennaya Tunguska
Burskaya
Nazimovsk
Ust Pitskoe
Kezhma
Chadobets
Pinchuga
Rybinskoe
Kirensk
Angara
Olekma Mts.
Tokko
Tomtor
Khandyskaya
Nimuidyrskaya
Chaiskaya
Tarkovskaya
Yudoma
Allakhskaya
Okhotsk
B
E
R
K
I
R
U
T
S
K
A
K
Y
S
E
N
I
S
E
I


NORTH AMERICA
ALASKA
Nome
B
C. Prince of Wales
Bering Strait
East Cape
St. Lawrence Bay
ST. LAWRENCE I.
NUNIVAK I.
UNIMAK I.
Unimak Pass
AKUTAN I.
Dutch Harbor
UNALASKA I.
PRIBILOF IS.
ST. GEORGE I.
ST. PAUL I.
C
ST. MATTHEW I.
60°
70°
Paukan
Cheltun
Chekanin
C. Serdtse-kamen
Irgunuk
Lyuren
Mechigmenskaya Bay
Mechigmin
Unisan
C. Chukotski
Nilin
Vuten
Akon
Enmilik
HERALD I.
C. Vankarem
C. Gevai
C. Rrykaipiya
WRANGEL I.
C. Thomas
MUSKYAN I.
Gulf of Anadyr
Holy Cross Bay
Anadyr
Anadyr Bay
Kenmankautir
Etonnik
C. Faddei
Archangel Gabriel B.
C. Navarin
BERING SEA
C. Shelagskii
Chaunskaya Bay
AION I.
Chaun
Verkon
Pala
Rautyyrgyn
Novo Mariinskii
Tnenkau
Belyi
C. Opukinskii
C. Baranov
Markovo
Pokhorukova
Vakarinoi
Anadyrsk
Poperechnaya
St. Andrew Chapel
Kavachkova
Orlovskaya
Penzhina
Omolon
Arctic Circle
BOUNDARY LINE UNITED STATES RUSSIA
Olyutorskoe
C. Olyutorskii
Nizhne Kolymsk
Karlukovo
Komarova
Bystraya
Chernyimys
Petrovo
Karbastakh
Sredne Kolymsk
Gorokhovo
Verkhne Kolymsk
Kolyma
Korkodon
Lavdan
Kamenskoe
Penzhinskaya Bay
Gizhiginsk
Gizhiginsk Bay
Kushka
Vivnikskoe
Kichiginskoe
KARAGINSKII I.
Karaginskoe
ATTU I.
AGATTU
NEAR ISLANDS
SEMICHI
COMMANDER IS.
BERING I.
MEDNYI I.
C. Ozernyi
Nayakhinskoe
Tavatamskoe
Shelekhova Gulf
Palyanskoe
Drankinskoe
Ukinskoe
Krestovskaya
Nizhne Kamchatsk
Kamchatskii Bay
C. Kamchatskii
Kamchatka
Tikhonova
Kharbastakh
Nerva
Ola
Yamsk
Napanskoe
Tigilskii
Ukhtolokskaya
Kozyrevskaya
Shchapina
Verkhne Kamchatsk
Kronotskii Bay
C. Kronotskii
C. Shipunskii
Petropavlovsk
Stanovoi Mountains
Stanovoi Range
Omyakonskaya
Okhotsk
Inskaya
Tahisk
Gorbeya
Arman
C. Bligan
Belogolovskoe
Sopochnoe
Oglukomena
Kolovskoe
Vorovskoe
Kychkinskoe
Bolsheretsk
Golygina
Yavino
C. Lopatka
PARAMUSHIRI
Kuril Strait
ARAIDO (Volcano)
ONEKOTAN
KHARIMKOTAN
SHASHKOTAN
Muskir Strait
MATSUWA
RASHUWA
SHIMUSHIRU
Boussole Strait
URUPPU
Yetorofu Strait
YETOROFU
KURIL ISLANDS
SEA OF OKHOTSK
C. Nogdan
C. Khongada
ST. JONAS I.
NARSKAN I.
Aldanskaya
Yudomskaya
Arka
Metinskaya
Ust Maiskaya
Khandygskaya
Chelginskaya
Aianka
Ayan
Alim
Aimskaya
Tarkovskaya
Maya
Mailskaya
Nelkan
Uda
Aldan
C. Elizabeth
FEKLISTOV I.
GREAT SHANTAR I.
Wrangel
Sakhalin Gulf
Udskaya Bay
Tugur
SAKHALIN PROVINCE
SAKHALIN ISLAND
(Jap. KARAFUTO)
Pogobi
Alexandrovsk
Dubki
Rykovsk
Mikhailovskaya
Nikolaevsk
Mariinsk
Sofiisk
Khadjan
Chemakan
Udskii Ostrog
C. Patience (Terpenia)
ROBBEN I.
Taraika Bay
Maguntotan
Tosomai
Sakachama
K
S
I
PACIFIC
OCEAN
ALEUTIAN
FOX IS.

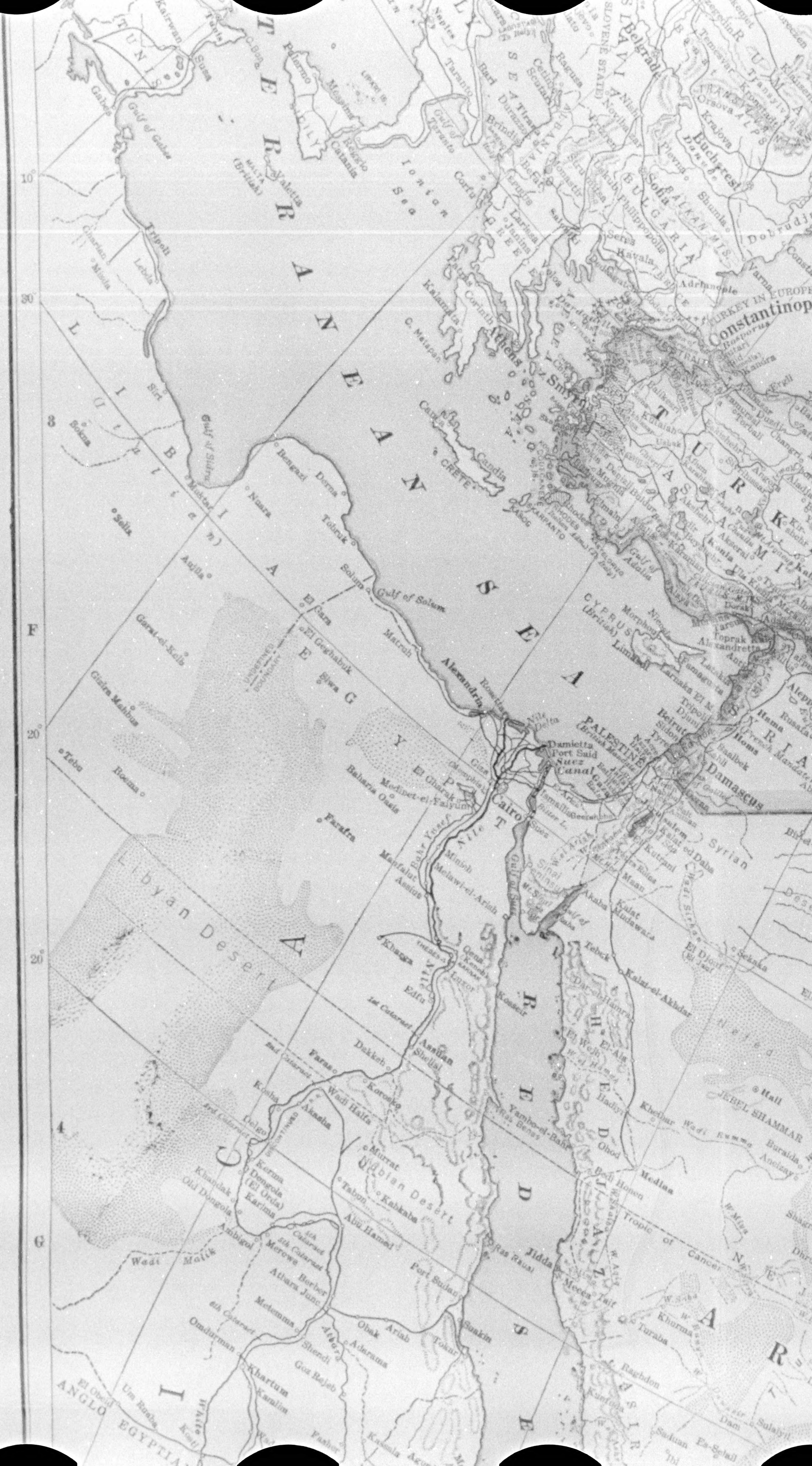

FOX ISLANDS
Harbor
SKA I.
UMNAK I.
ISLANDS OF FOUR MOUNTAINS
Amukta Pass
SEGUAM I.
Seguam Pass
AMLIA I.
ATKA I.
ANDREANOF ISLANDS
ADAK I.
KANAGA I.
TANAGA I.
GARELOI I.
SEMISOPOCHNOI I.
AMCHITKA I.
RAT ISLANDS
KISKA I.
BULDIR I.
ALEUTIAN ISLANDS
SEMICHI IS.
AGATTU I.
ISLANDS
50°
40°
D
21
170°
20
180°
E
19
170°
30°

MAP OF

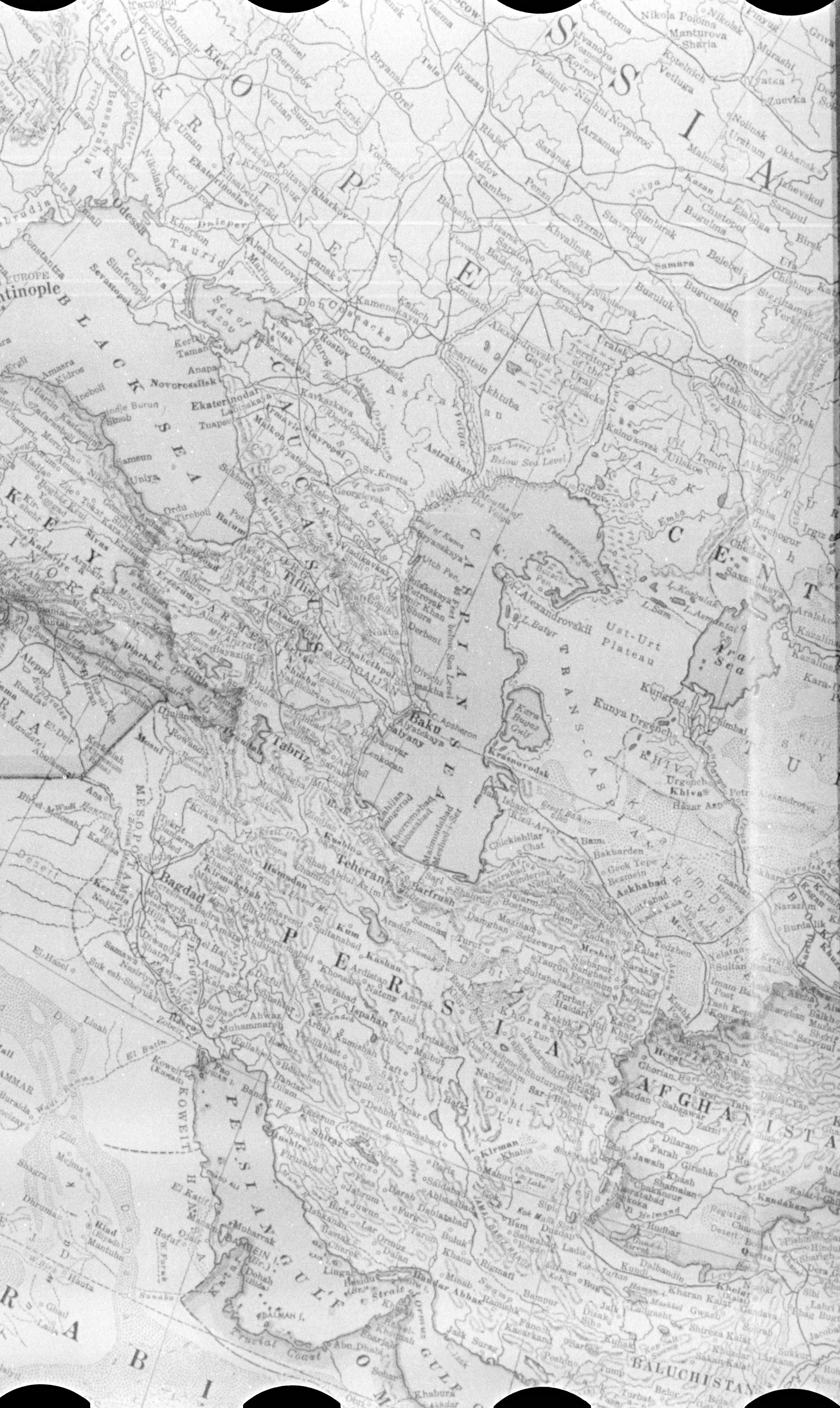
ASIA

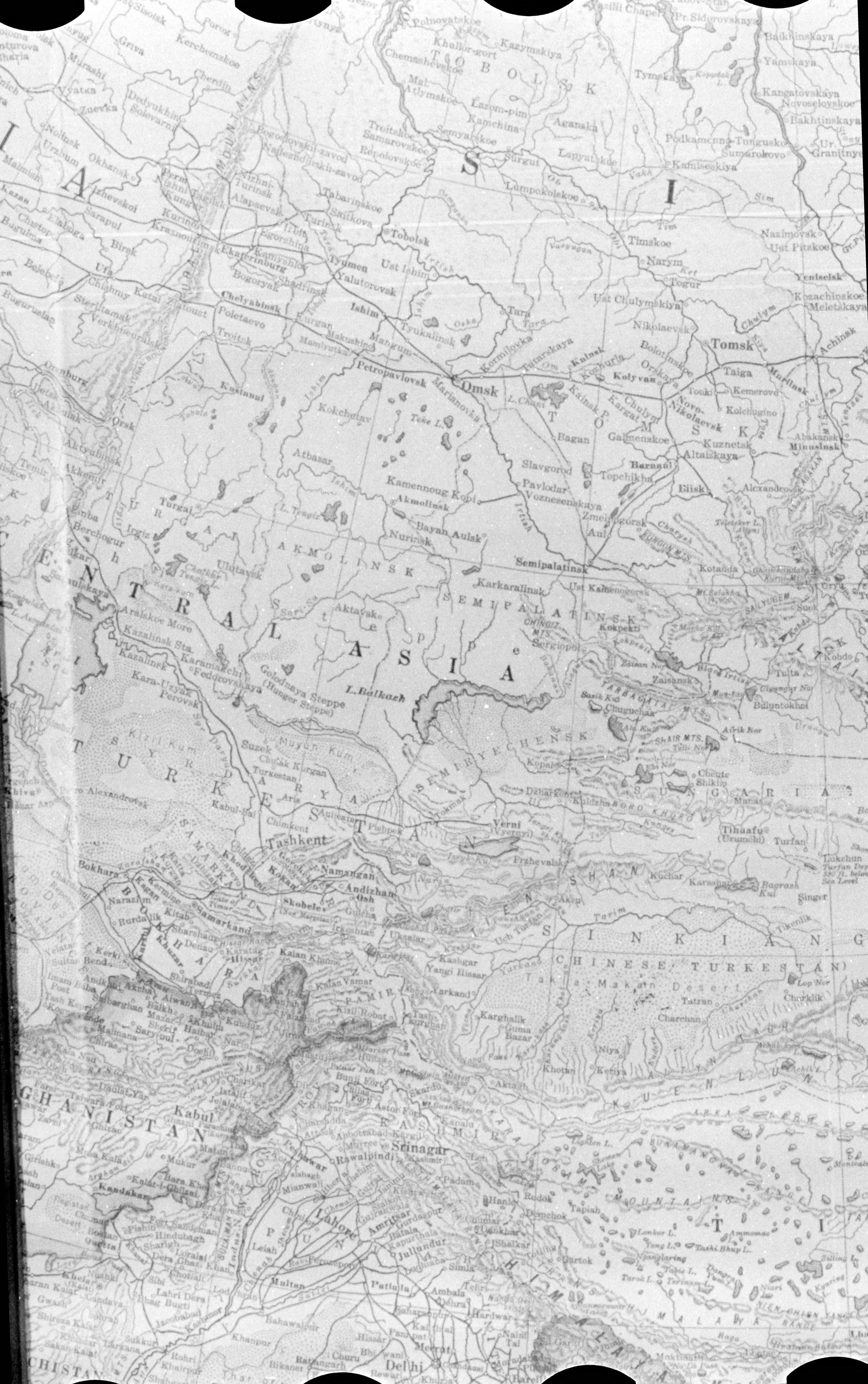
AND ADJOINING EUROPE

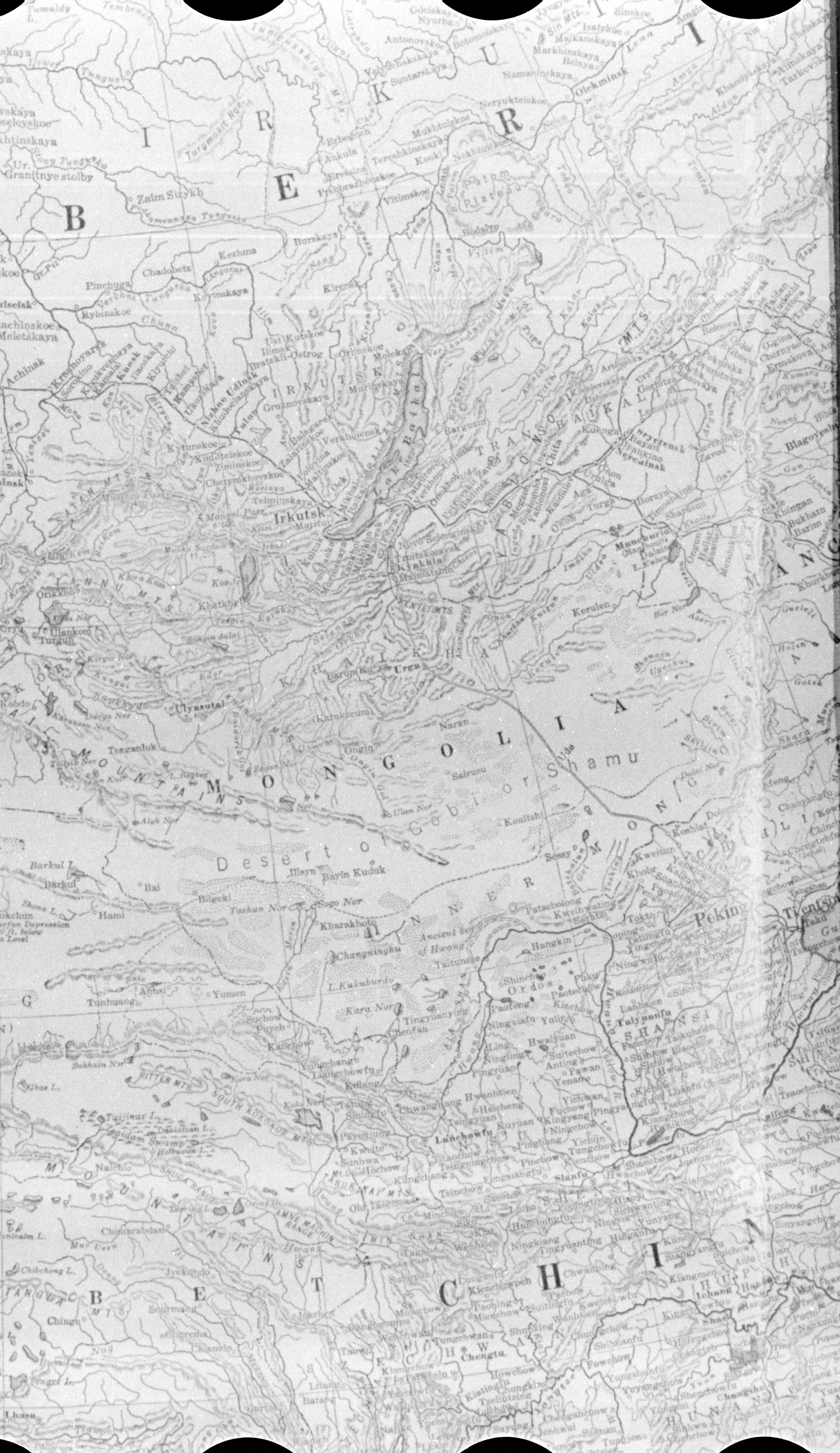
WITH A PORTION OF AFRICA

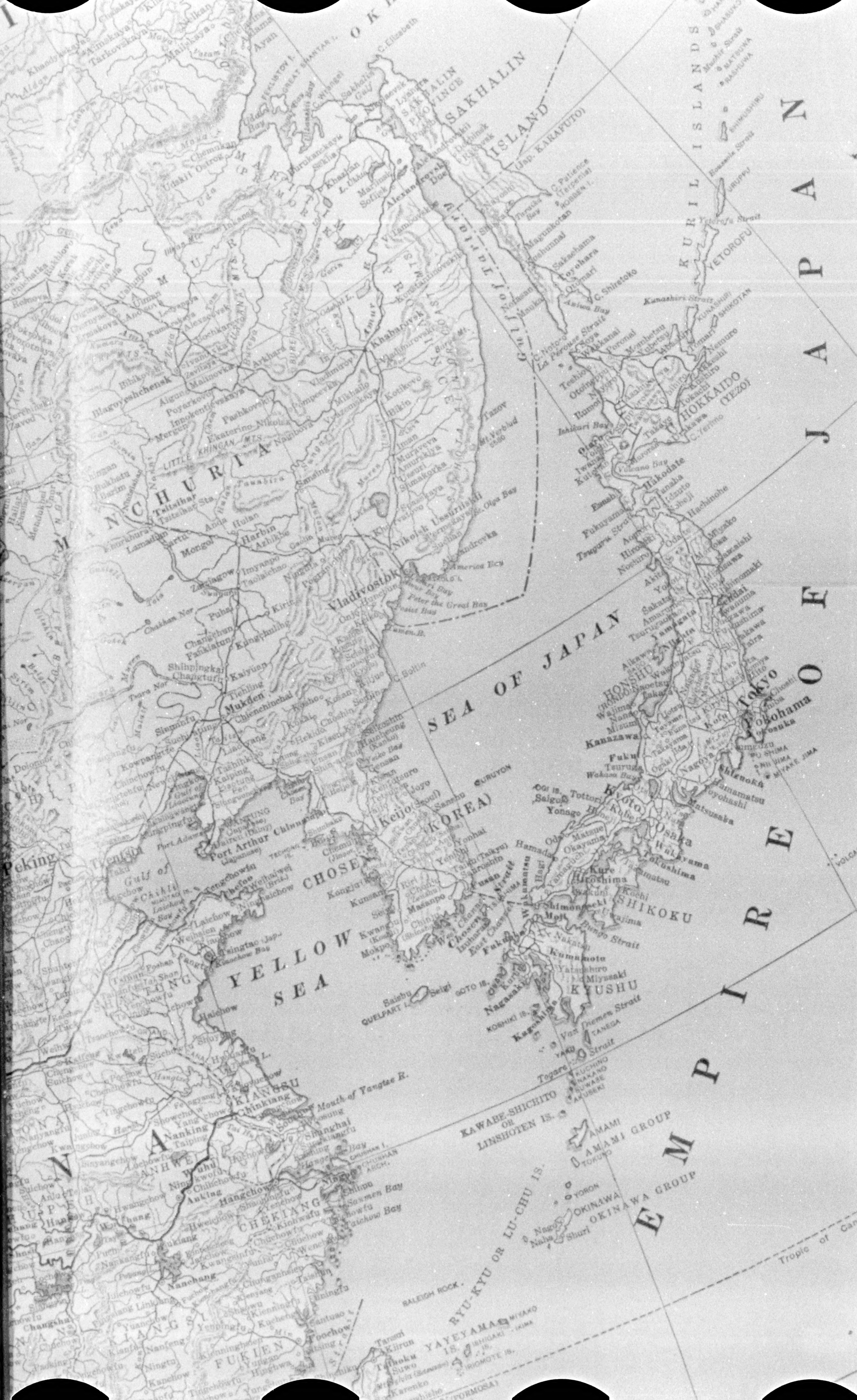


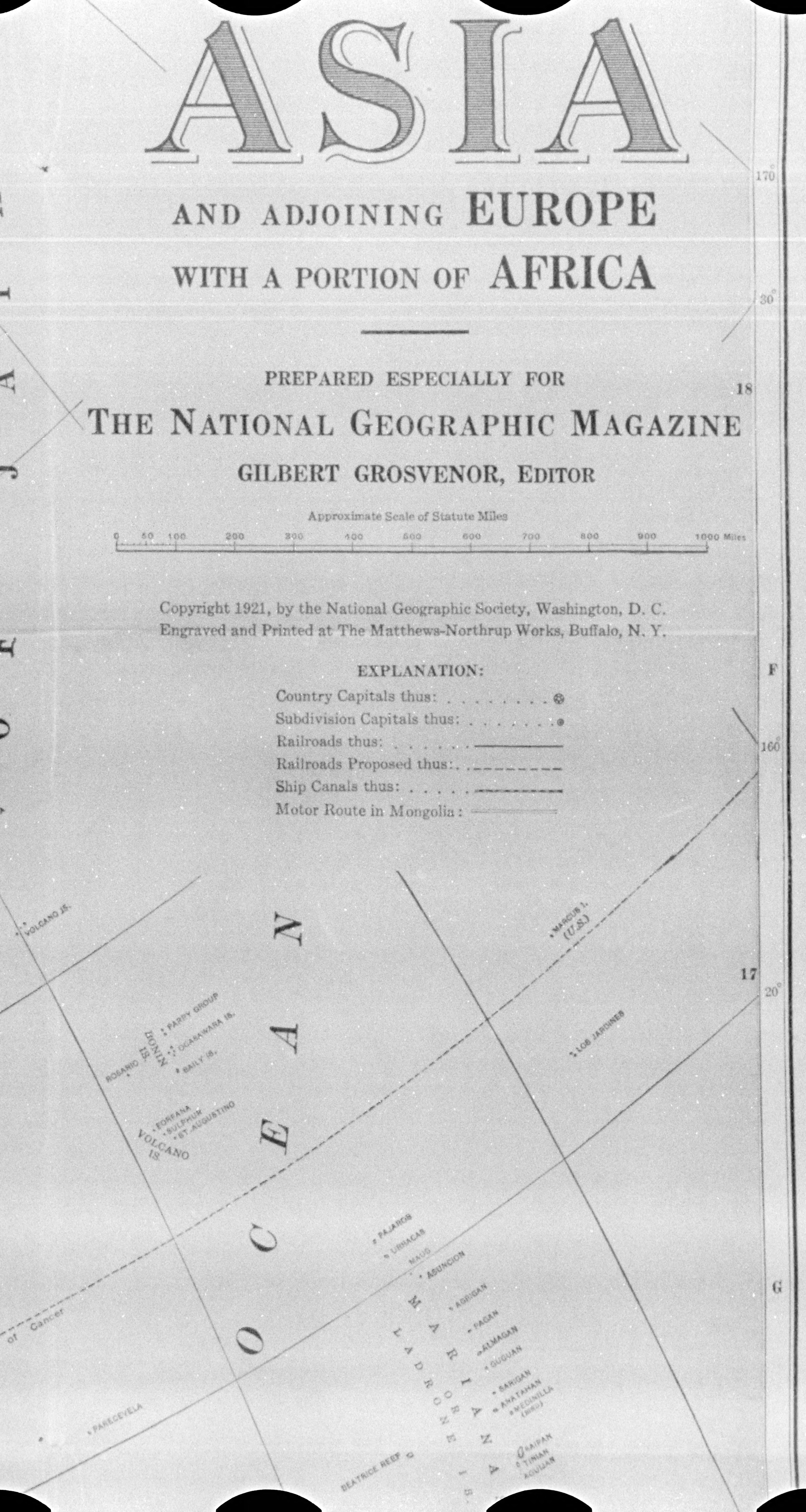
MEDITERRANEAN SEA
Ionian Sea
Gulf of Gabes
Tripoli
Gulf of Sidra
Malta (British)
Valetta
Palermo
Messina
Catania
Sicily
Tunis
Sfax
Corfu
Athens
Smyrna
Crete
Candia
Cyprus (British)
Constantinople
Bosporus
Sofia
Bucharest
Belgrade
Bulgaria
Adrianople
Turkey in Europe
Asia Minor
Turkey
Syria
Aleppo
Hama
Homs
Beirut
Damascus
Palestine
Libya
Bengazi
Derna
Tobruk
Solum
Gulf of Solum
Matruh
El Gara
Siwa
Alexandria
Rosetta
Nile Delta
Damietta
Port Said
Suez Canal
Cairo
Suez
Sinai
Egypt
Libyan Desert
Baharia Oasis
Farafra
Medinet-el-Faiyum
Minieh
Assiut
Khargah
Luxor
Keneh
Edfu
1st Cataract
Assuan
Shellal
Korosko
Wadi Halfa
2nd Cataract
Nubian Desert
Dongola
Karima
Merowe
Berber
Atbara Junc.
Port Sudan
Suakin
Khartum
Omdurman
Anglo Egyptian
Red Sea
Akaba
Hedjaz
Medina
Yambo-el-Bahr
Jidda
Mecca
Taif
Tropic of Cancer
Nefud
Jebel Shammar
Hail
Arabia
Syrian Desert
F
G
10°
20°
30°


RUSSIA
UKRAINE
EUROPE
Moscow
Kostroma
Nikola Poloma
Nikolsk
Manturova
Sharia
Ivanovo Voznesensk
Kovrov
Vladimir
Nizhni Novgorod
Kotelnich
Vetluga
Vyatka
Zuevka
Nolinsk
Urzhum
Malmish
Okhansk
Izhevskoi
Sarapul
Kazan
Chistopol
Elabuga
Birsk
Ufa
Chishmy
Sterlitamak
Verkhneuralsk
Simbirsk
Bugulma
Belebei
Samara
Buzuluk
Buguruslan
Syzran
Stavropol
Khvalinsk
Volsk
Saratov
Pokrovskaya
Nikolaevsk
Penza
Saransk
Arzamas
Tambov
Kozlov
Riajsk
Ryazan
Tula
Orel
Bryansk
Kursk
Voronezh
Balashov
Atkarsk
Balanda
Kamishin
Erzovka
Gomel
Chernigov
Kiev
Zhitomir
Berdichev
Vinnitsa
Nizhan
Sumy
Poltava
Kharkov
Uman
Cherkasy
Kremenchug
Elisabethgrad
Ekaterinoslav
Nikolaiev
Kishinev
Bessarabia
Odessa
Kherson
Dnieper
Krivoi Rog
Taurida
Crimea
Simferopol
Sevastopol
Alexandrovsk
Mariupol
Lugansk
Kamenskaya
Kalach
Don Cossacks
Novo Cherkassk
Rostov
Taganrog
Yeisk
Sea of Azov
Kerch
Taman
Anapa
Novorossiisk
Ekaterinodar
Labinskaya
Tuapse
Maikop
Stavropol
Kavkazkaya
Manich Depression
Astrakhan
Tsaritsin
Akhtuba
Volga
Sea Level Line
Below Sea Level
Sv. Kresta
Georgievsk
Pyatigorsk
Mosdok
Vladikavkaz
Kizlyar
Mouths of the Volga
Gulf of Kuma
Uralsk
Territory of the Ural Cossacks
Orenburg
Iletsk
Akbulak
Orsk
Aktyubinsk
Temir
Uilskoe
Guriev
Emba
Berchogur
Irgiz
Chelkar
Saxaulskaya
Aralskoe
Kazalinsk
Tsesarevich Bay
Buzachi Pen.
L. Koskul
L. Sam
L. Asmantai
Alexandrovskii
L. Batyr
Ust-Urt Plateau
Aral Sea
Kungrad
Kunya Urgench
Chimbai
Khiva
Urgench
Hazar Asp
Petro Alexandrovsk
Amu Darya
Kara Bugaz Gulf
Krasnovodsk
Chikishliar
Bami
Bakharden
Geok Tepe
Bezmein
Askhabad
Kara Kum Desert
Merv
Tedzhen
Chardzhui
Bukhara
Kerki
Karshi
Termez
Yelatan
Sultan Bend
Imam Baba Post
Tash Kepri
Kushk
TRANS-CASPIAN PROVINCE
CASPIAN SEA
Petrovsk
Temir Khan Shura
Derbent
Kuba
Shemakha
Baku
C. Apsheron
Salyany
Lenkoran
Elisabethpol
Tiflis
Alexandropol
Kutais
Batum
GEORGIA
AZERBAIJAN
ARMENIA
Erivan
Mt. Ararat
Kars
Erzerum
Bayazid
Trebizond
Tireboli
Ordu
Samsun
Sinob
Ineboli
Amasra
Kidros
Constantinople
Constantza
Dobrudja
Galatz
BLACK SEA
TURKEY
ASIA MINOR
Sivas
Tokat
Amasia
Kaisarie
Diarbekr
Urfa
Aleppo
Syria
Deir
Mosul
Kerkuk
Rowandiz
Urumia
Tabriz
Ardebil
Zenjan
Resht
Kazvin
Teheran
Barfrush
Sari
Astrabad
Shahrud
Damghan
Semnan
Hamadan
Kermanshah
Bagdad
MESOPOTAMIA
Kerbela
Hilla
Kut el Amara
Amara
Samawa
Nasiriya
Basra
Zobeir
Muhammarah
Ahwaz
Shushter
Dizful
Khorramabad
Burujird
Sultanabad
Kum
Kashan
Natenz
Ardistan
Nain
Isfahan
Yezd
Tabbas
Turshiz
Nishapur
Meshed
Sabzawar
Kuchan
Bujnurd
Kalat
Sarakhs
Turbat-i-Haidari
Khorasan
Tun
Birjand
Herat
Ghorian
Sabzawar
Farah
Anardara
Dilaram
Jawain
Girishk
Khash
Chakhansur
Nasratabad
Helmand
Rudbar
Kandahar
AFGHANISTAN
Dasht-i-Lut
Kerman
Khabis
Bam
Rigmat
Bampur
Regan
Baft
Shiraz
Bushire
Kazerun
Firuzabad
Nirlz
Fasa
Darab
Jahrum
Lar
Lingah
Bandar Abbas
Minab
Ormuz
Jask
Strait of Ormuz
GULF OF OMAN
PERSIA
PERSIAN GULF
Fao
Koweit
KOWEIT
El Katif
Bahrein
Dohah
Trucial Coast
Abu Dhabi
Dalmah I.
OMAN
Sohar
Khabura
ARABIA
Riad
Hofuf
SHAMMAR
Nejd
El Hasel
El Batin
Linah
BALUCHISTAN
Kharan Kalat
Kalat
Quetta
Sibi
Panjgur
Dalbandin
Nushki
Kundi
Registan Desert
Fort Sandeman
Dera Ghazi Khan
Jacobabad


S I B E R I A
T O B O L S K
T O M S K
C E N T R A L   A S I A
A K M O L I N S K
S E M I P A L A T I N S K
S E M I R Y E C H E N S K
T U R G A I
S Y R   D A R Y A
T U R K E S T A N
S A M A R K A N D
B O K H A R A
S U N G A R I A
S I N K I A N G
(CHINESE TURKESTAN)
AFGHANISTAN
KASHMIR
PUNJAB
TI
KUEN LUN
HIMALAYA
TIEN SHAN
PAMIR
Takla Makan Desert
Kizil Kum
Muyun Kum
Golodnaya Steppe
(Hunger Steppe)
Aralskoe More
Aral Sea
L. Balkash
TARBAGATAI MTS.
SHAIR MTS.
CHINGIZ MTS.
ALTAI
URAL MOUNTAINS
Tobolsk
Tyumen
Yalutorovsk
Ishim
Tyukalinsk
Omsk
Petropavlovsk
Tara
Tomsk
Taiga
Achinsk
Kolyvan
Novo-Nikolaevsk
Barnaul
Biisk
Kuznetsk
Minusinsk
Narym
Timskoe
Togur
Surgut
Yeniseisk
Kainsk
Kokchetav
Atbasar
Akmolinsk
Pavlodar
Semipalatinsk
Ust Kamenogorsk
Karkaralinsk
Sergiopol
Kopal
Verni
(Vyernyi)
Pishpek
Tokmak
Przhevalsk
Kuldzha
Tihuafu
(Urumchi)
Turfan
Kuchar
Karashar
Aksu
Kashgar
Yangi Hissar
Yarkand
Karghalik
Khotan
Keriya
Niya
Charchan
Lop Nor
Tashkent
Chimkent
Aulieata
Turkestan
Perovsk
Kazalinsk
Kara-Uzyak
Namangan
Andizhan
Osh
Skobelev
Kokan
Khodzhent
Samarkand
Bokhara
Kerki
Termez
Balkh
Mazar
Kabul
Jalalabad
Charikar
Ghazni
Kandahar
Kalat-i-Ghilzai
Peshawar
Rawalpindi
Srinagar
Lahore
Amritsar
Jullundur
Multan
Simla
Ambala
Patiala
Meerut
Delhi
Bikaner
Quetta
Dera Ghazi Khan
Dera Ismail Khan
Leh
Rudok
Gartok
Ekaterinburg
Chelyabinsk
Kurgan
Troitsk
Kustanai
Orenburg
Orsk
Aktyubinsk
Irgiz
Turgai
Ufa
Perm
Kazan
Zlatoust
Sterlitamak
Verkhneuralsk
Shadrinsk
Kamyshlov
Irbit
Turinsk
Alapaevsk
Kungur
Krasnoufimsk
Sarapul
Birsk
Belebei
Bugulma
Buguruslan
Ak-bulak
Emba
Berchogur
Fedorovskaya
Karamakchi
Kazalinsk Sta.
Suzek
Chulak Kurgan
Kabul-Sai
Zaisansk
Kokpekti
Chuguchak
Bulun Tokhoi
Kobdo
Ebi Nor
Ayar Nor
Manas
Bagrash Kul
Issyk Kul
Zaisan Nor
L. Tengiz
L. Chani
Tim
Ket
Chulym
Ob
Irtish
Ishim
Tobol
Tarim
Yarkand
Narin
Ili
Tashkurghan
Kizil Robat
Gulcha
Irkeshtam
Faizabad
Kunduz
Khulm
Shibarghan
Maimana
Andkhui
Sar-i-pul
Daulat Yar
Pishin
Sibi
Shikarpur
Sukkur
Bahawalpur
Khanpur
Hissar
Hardwar
Dehra
Tehri
Naini Tal
Moradabad
Bareilly
Rewari
Ratangarh
Churu
Skardu
Gilgit
Chitral
Astor Fort
Bunji Fort
Chilas Fort
Murree
Abbottabad
Attock
Jammu
Sialkot
Gujranwala
Gurdaspur
Kapurthala
Batala
Ferozepore
Ludhiana
Leiah
Padam
Tapiah
Demchok
Shipki
Manasarowar
NIEN CHIEN TANG LA RANGE
Turfan Depression 330 ft. below Sea Level
Bakhtinskaya
Kangatovskaya
Novoselovskoe
Baikhinskaya
Yamskaya
Podkamenno-Tunguskoe
Sumarokovo
Kamiseskiya
Nazimovsk
Ust Pitzkoe
Kozachinskoe
Meletskaya
Ust Chulymskiya
Nikolaevsk
Bolotinskoe
Kemerovo
Kolchugino
Altaiskaya
Alexandrovsk
Abakansk
Kotanda
Mt. Belukha
Sock
Tulta
Samarovskoe
Repolovskoe
Tabarinskoe
Bogoslovskii-zavod
Nadezhdinskii-zavod
Nizhni-Turinsk
Nizhni Tagilsk
Lumpokolskoe
Lapyatskoe
Aganska
Kamchina
Tymskaya
Mariaovka
Kormilovka
Tatarskaya
Bagan
Slavgorod
Topchikha
Zmeinogorsk
Vozneseneskaya
Galmenskoe
Bayan Aulsk
Nurinsk
Kamennoug Kopi
Aktavak
Ulutavsk
Chelkar Tengiz L.


S I B E R I A
M O N G O L I A
I N N E R M O N G O L I A
Desert of Gobi or Shamu
T I B E T
C H I N A
TRANSBAIKALIA
IRKUTSK
KHALKHA
Irkutsk
L. Baikal
Kiakhta
Urga
Karakorum
Uliassutai
Kobdo
Ulan Nor
Ubsa Nor
SAYAN MTS
TANNU MTS
ALTAI MOUNTAINS
KENTEI MTS
Kerulen
Selenga
Orkhon
Tola
Onon
Argun
Chita
Nerchinsk
Sretensk
Verkhne Udinsk
Barguzin
Kirensk
Olekminsk
Vitimskoe
Bodaibo
Patom Plateau
Lena
Vitim
Olekma
Aldan
Tunguska
Angara
Krasnoyarsk
Achinsk
Kansk
Nizhne Udinsk
Tulun
Kuenga
Borzya
Blagoveshchensk
Manchuria
L. Kulun
Dolon Nor
Kalgan
Peking
Tientsin
Kweihwating
Ordos
Ningsiafu
Lanchowfu
Siningfu
Koko Nor
Kanchow
Suchow
Tunhuang
Anhsi
Yumen
Hami
Barkul
Turfan Depression
Kharakhoto
Sogo Nor
Ancient bed of Hwang
Taiyuanfu
SHANSI
SHENSI
KANSU
Sianfu
Chengtu
Szechwan
Chungking
Hupeh
Ichang
Hankow
Shasi
HONAN
HUNAN
Changsha
Tsaidam Swamp
Taijinar L.
RITTER MTS
SOUTH KOKONOR MTS
AMNE MACHIN RANGE
MIN SHAN
Jyekundo
Chamdo
Batang
Litang
Lhasa
Tengri Lama
Chimarabdan


SAKHALIN PROVINCE
SAKHALIN ISLAND
(Jap. KARAFUTO)
C. Patience
Gulf of Tartary
Gulf of Terpeniya
Toyohara
Korsakov
Aniwa Bay
C. Notoro
La Pérouse Strait
C. Shiretoko
KURIL ISLANDS
Kunashiri Strait
KUNASHIRI
SHIKOTAN
YETOROFU
Yetorofu Strait
URUPPU
Nemuro
Kushiro
HOKKAIDO
(YEZO)
C. Yerimo
Otaru
Otoineppu
Ishikari Bay
Volcano Bay
Hakodate
Esashi
Fukuyama
Tsugaru Strait
Aomori
Hirosaki
Hachinohe
Akita
Morioka
Sakata
Yamagata
Sendai
Tsuruga
Niigata
Aikawa
HONSHU
(HONDO)
Wajima
Kanazawa
Fukui
Wakasa Bay
Tokyo
Yokohama
Yosuka
Kofu
Nagano
Nagoya
Shizuoka
Hamamatsu
Toyohashi
Matsusaka
Kyoto
Osaka
Kobe
Wakayama
Okayama
Tottori
Yonago
Saigo
OKI IS.
Matsue
Hamada
Hiroshima
Kure
Tokushima
Takamatsu
Kochi
Uwajima
SHIKOKU
Bungo Strait
Shimonoseki
Moji
Fukuoka
Kumamoto
Nagasaki
Yatsushiro
Miyazaki
Kagoshima
KYUSHU
Van Diemen Strait
TANEGA
YAKU
Strait
KOSHIKI IS.
GOTO IS.
Tokara
KUCHINO
NAKANO
SUWASE
AKUSEKI
KAWABE-SHICHITO
OR
LINSHOTEN IS.
AMAMI
AMAMI GROUP
TOKUNO
YORON
OKINAWA
OKINAWA GROUP
Naha
Shuri
RYU-KYU OR LU-CHU IS.
YAEYAMA IS.
MIYAKO
ISHIGAKI
IRIOMOTE IS.
RALEIGH ROCK
Tropic of Cancer
JAPAN
EMPIRE OF JAPAN
SEA OF JAPAN
YELLOW SEA
CHOSEN
(KOREA)
Keijo (Seoul)
Chemulpo
Gensan
Fusan
Masampo
Mokpo
Kunsan
Kongju
Chinnampo
Heijo
Chongjin
Korea Strait
Tsushima
QUELPART I.
Saishu
Seishu
C. Boltin
Tumen R.
URUYON
Vladivostok
Peter the Great Bay
America Bay
Olga Bay
Nikolsk Ussuriiski
Imian
Khabarovsk
Amur R.
Nikolaevsk
Alexandrovsk
Sakhalin Gulf
C. Elizabeth
Great Shantar I.
OKHOTSK
Ayan
Udskoi
Chumikan
AMUR
MARITIME PROVINCE
Blagovyeshchensk
Aigun
Albazin
Zeya
LITTLE KHINGAN MTS.
MANCHURIA
Tsitsihar
Harbin
Hulan
Kirin
Ninguta
Changchun
Kuanchengtzu
Kaiyuan
Tiehling
Mukden
Liaoyang
Newchwang
Kaiping
Port Arthur
Dalny
KWANTUNG
Antung
Gulf of Liaotung
Peking
Tientsin
Gulf of Chihli
Chefoo
Weihaiwei
Tengchowfu
Tsingtao (Jap.)
Kiaochow Bay
SHANTUNG
Haichow
Mouth of Yangtze R.
KIANGSU
Chinkiang
Nanking
Yangchow
Soochow
Shanghai
Hangchow Bay
CHUSAN ARCH.
Ningpo
Hangchow
Sanmen Bay
Taichow Bay
CHEKIANG
Wenchow
ANHWEI
Wuhu
Anking
Kiukiang
Nanchang
Hankow
Changsha
FUKIEN
Foochow
Kiirun
Taihoku
Tamsui
FORMOSA
CHINA



ASIA

AND ADJOINING EUROPE

WITH A PORTION OF AFRICA

PREPARED ESPECIALLY FOR

THE NATIONAL GEOGRAPHIC MAGAZINE

GILBERT GROSVENOR, EDITOR

Approximate Scale of Statute Miles
0
50
100
200
300
400
500
600
700
800
900
1000 Miles

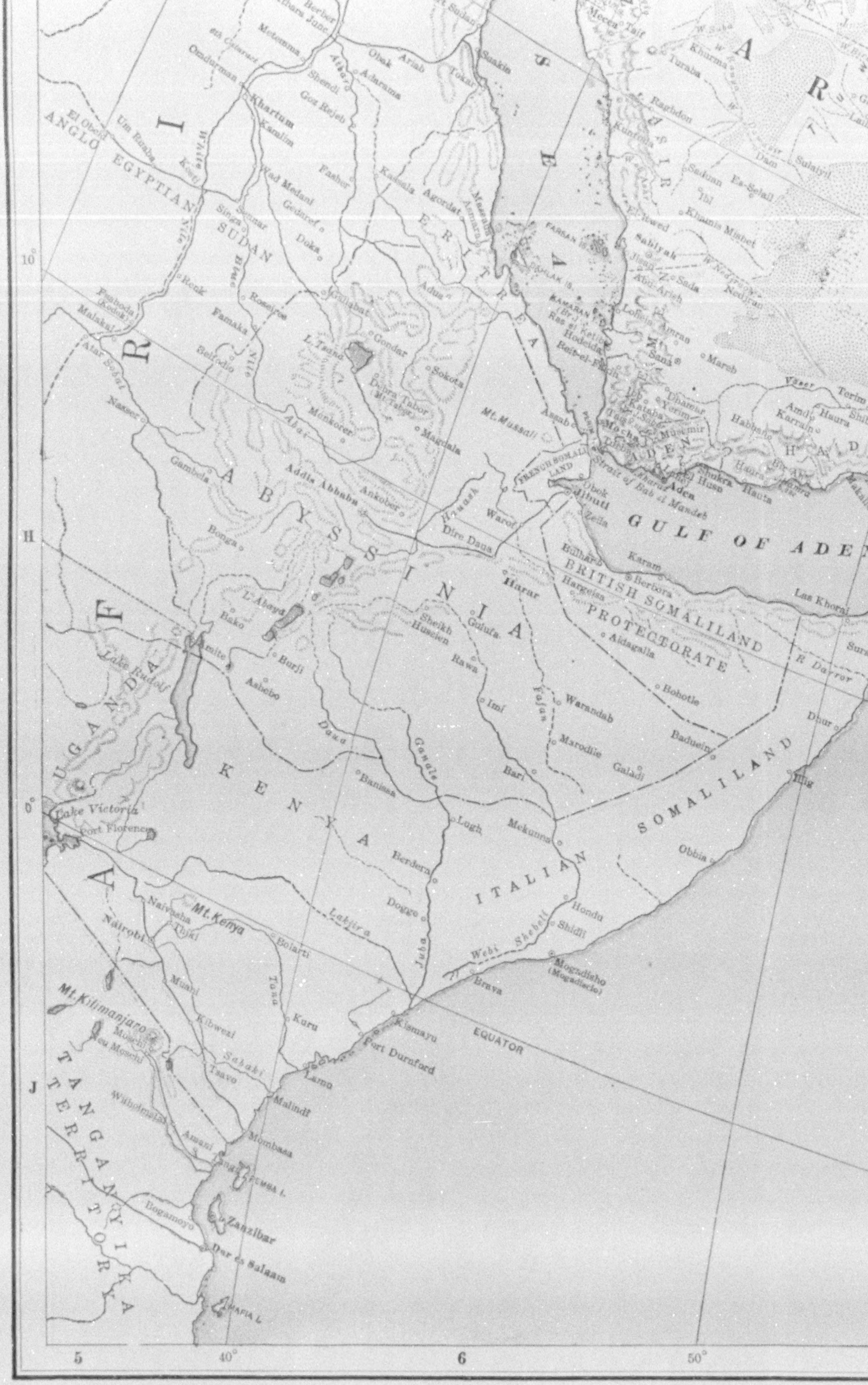
Copyright 1921, by the National Geographic Society, Washington, D. C.

Engraved and Printed at The Matthews-Northrup Works, Buffalo, N. Y.

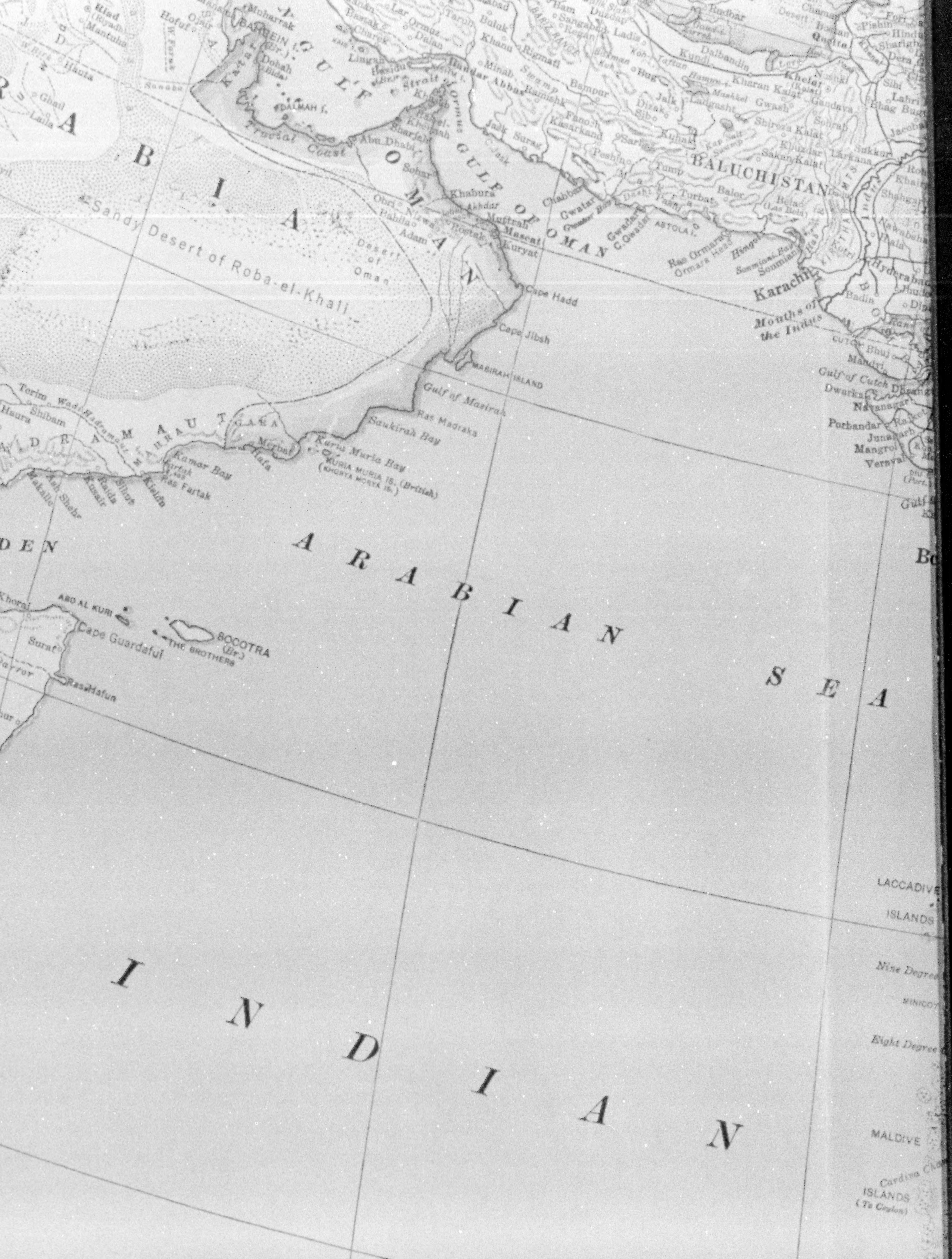
EXPLANATION:

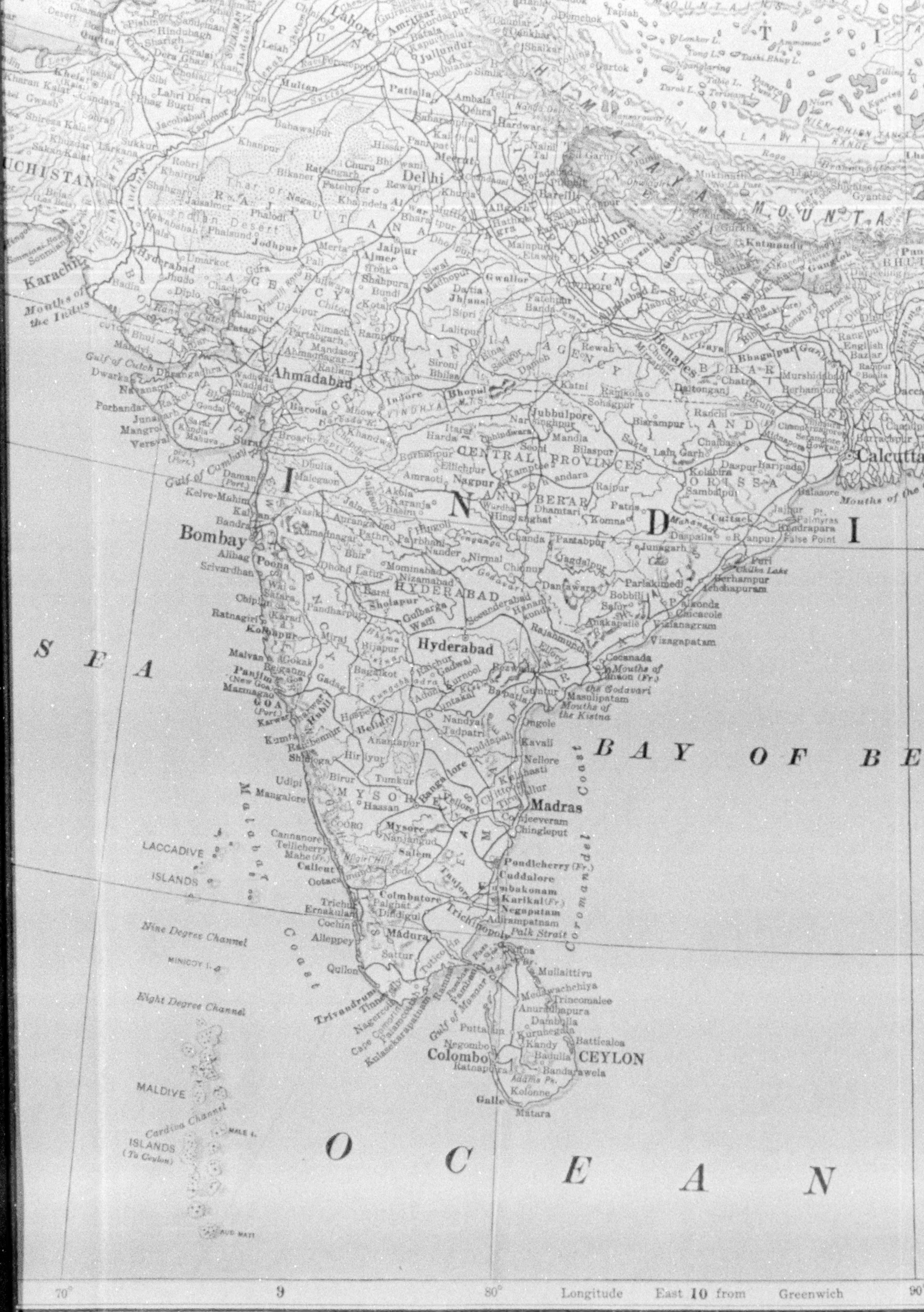
Country Capitals thus: . . . . ⊗
Subdivision Capitals thus: . . . . ●
Railroads thus: . . . . . . ———
Railroads Proposed thus: . - - - - - - -
Ship Canals thus: . . . . . ———
Motor Route in Mongolia: ═══

170°
30°
18
F
160°
17
20°
G
VOLCANO IS.
PARRY GROUP
OGASAWARA IS.
BAILY IS.
BONIN IS.
ROSARIO
FORFANA
SULPHUR
ST. AUGUSTINO
VOLCANO IS
O C E A N
MARCUS I. (U.S.)
LOS JARDINES
PAJAROS
URRACAS
MAUG
ASUNCION
AGRIGAN
PAGAN
ALMAGAN
GUGUAN
SARIGAN
ANATAHAN
MEDINILLA (Bird)
SAIPAN
TINIAN
AGUIJAN
MARIANA OR LADRONE IS.
BEATRICE REEF
PAREGEVELA
of Cancer


ANGLO EGYPTIAN SUDAN
A F R I C A
ERITREA
A B Y S S I N I A
K E N Y A
UGANDA
TANGANYIKA TERRITORY
ITALIAN SOMALILAND
BRITISH SOMALILAND PROTECTORATE
FRENCH SOMALI LAND
ADEN
A R
GULF OF ADEN
Strait of Bab el Mandeb
Berber
Atbara Junc.
Metemma
6th Cataract
Omdurman
Khartum
Kamlin
Shendi
Goz Rejeb
Atbara
Adarama
Obak
Ariab
Tokar
Suakin
El Obeid
Um Ruaba
Kosti
White Nile
Wad Medani
Gedaref
Fasher
Kassala
Agordat
Asmara
Massaua
Singa
Sennar
Blue Nile
Doka
Gallabat
Roseires
Famaka
Renk
Fashoda (Kodok)
Malakal
Sobat
Nasser
Beirodio
L. Tsana
Gondar
Debra Tabor
Mt. Tabor
Adua
Sokota
Magdala
Monkorer
Abai
Mt. Mussali
Assab
Gambela
Addis Abbaba
Ankober
Hawash
Warof
Dire Daua
Obok
Jibutti
Zeila
Bonga
Harar
Bulhar
Berbera
Karam
Hargeisa
Aidagalla
Las Khoral
L. Abaya
Bako
Sheikh Hussien
Gulufa
Rawa
Imi
Fafan
Warandab
Marodile
Bohotle
Baduein
Galadi
Bari
Lake Rudolf
Burji
Aabebo
Daua
Ganale
Banissa
Lugh
Mekunna
Berdera
Dogge
Juba
Webi Shebeli
Hondu
Shidli
Mogadisho (Mogadiscio)
Brava
Kismayu
Port Durnford
Lamu
Malindi
Mombasa
Lake Victoria
Port Florence
Naivasha
Thiki
Mt. Kenya
Bolarti
Nairobi
Tana
Muani
Kibwezi
Kuru
Mt. Kilimanjaro
Moschi
Sabaki
Tsavo
Wilhelmstal
Amani
Tanga
Pemba I.
Zanzibar
Bagamoyo
Dar es Salaam
Mafia I.
EQUATOR
Obbia
Illig
Duur
R. Darror
Sura
Mecca
Taif
Turaba
Khurma
Raghdon
Kunfuda
Sadan
Es-Selail
Ibl
Dam
Sulaiyil
El Ewed
Khamis Mishet
Sabiyah
Abu Arish
Soda
Nejran
Farsan Is.
Loheia
Amran
Kamaran I.
Ras el Ketib
Hodeida
Beit-el-Fakih
Sana
Mareb
Dhamar
Yerim
Katabah
Taiz
Mocha
Musemir
Perim
Lahej
Shukra
Aden
Husn
Hauta
Haura
Wadi Yaser
Terim
Shibam
Amd
Karrain
Habban
Haura
H A D
10
H
0°
J
5
40°
6
50°

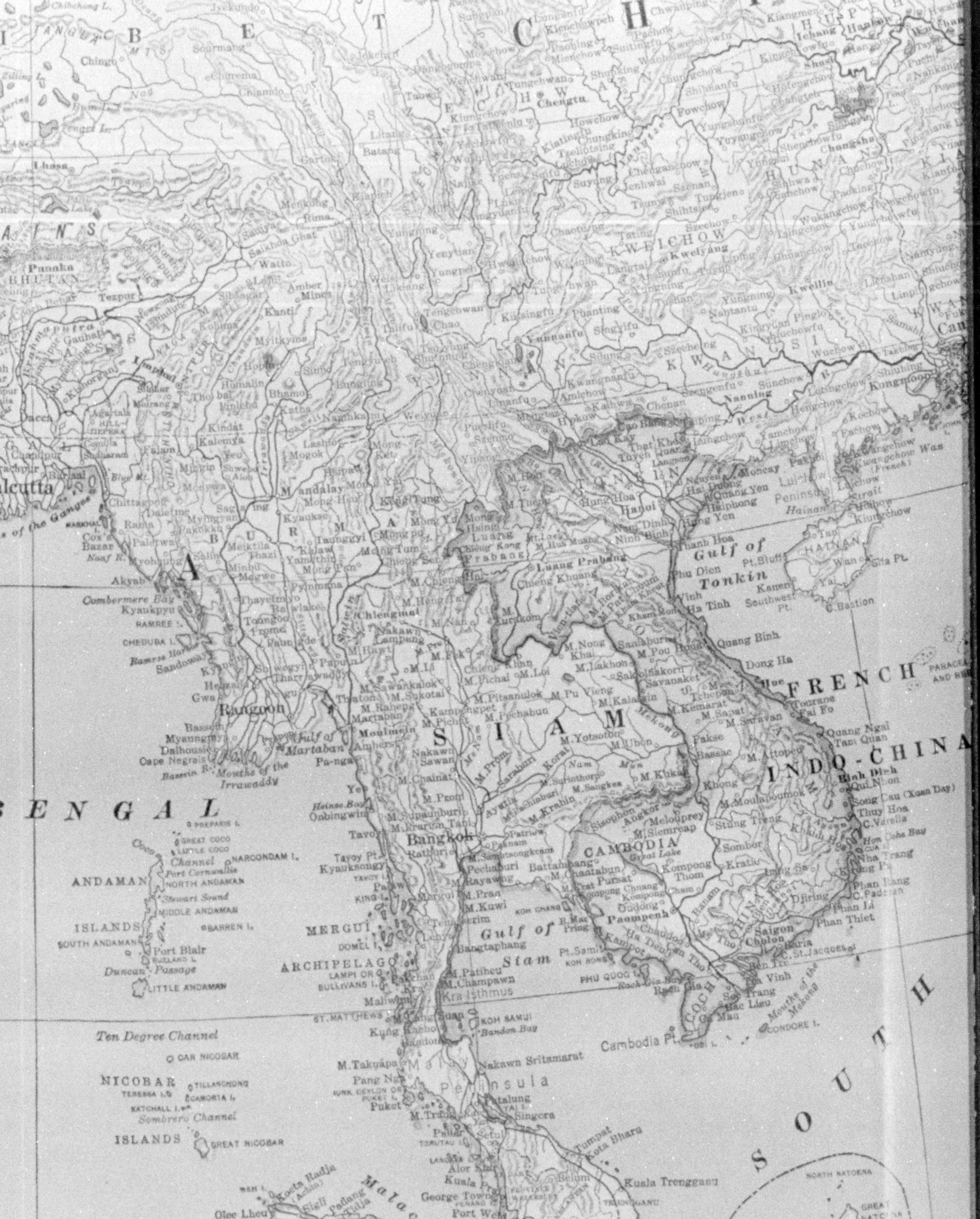
XUM


A R A B I A N
Sandy Desert of Roba-el-Khali
Desert of Oman
O M A N
BAHREIN I. (Br.)
Katar
Dohah
Trucial Coast
Abu Dhabi
Sharjah
Sohar
GULF OF ORMUZ
Strait of Ormuz
Bandar Abbas
Lingah
Khaburs
Muttrah
Mascat
Kuryat
GULF OF OMAN
Cape Hadd
Cape Jibsh
MASIRAH ISLAND
Gulf of Masirah
Ras Madraka
Saukirah Bay
Kuria Muria Bay
KURIA MURIA IS. (British)
Murbat
Hafa
Kamar Bay
Ras Fartak
Kishin
Shibam
Terim
Wadi Hadramaut
H A D R A M A U T
Makalla
Ash Shehr
D E N
ABD AL KURI
SOCOTRA (Br.)
THE BROTHERS
Cape Guardaful
Ras Hafun
A R A B I A N   S E A
I N D I A N
BALUCHISTAN
Chahbar
Gwatar
Gwadar
C. Gwadar
ASTOLA I.
Ras Ormara
Ormara Head
Sonmiani
Karachi
Mouths of the Indus
Quetta
Kelat
Kharan Kalat
Hyderabad
CUTCH
Bhuj
Gulf of Cutch
Dwarka
Navanagar
Porbandar
Junagarh
Mangrol
Veraval
LACCADIVE ISLANDS
Nine Degree
MINICOY
Eight Degree
MALDIVE ISLANDS (To Ceylon)
Cardiva Channel
7
60°
8
70°
XUM

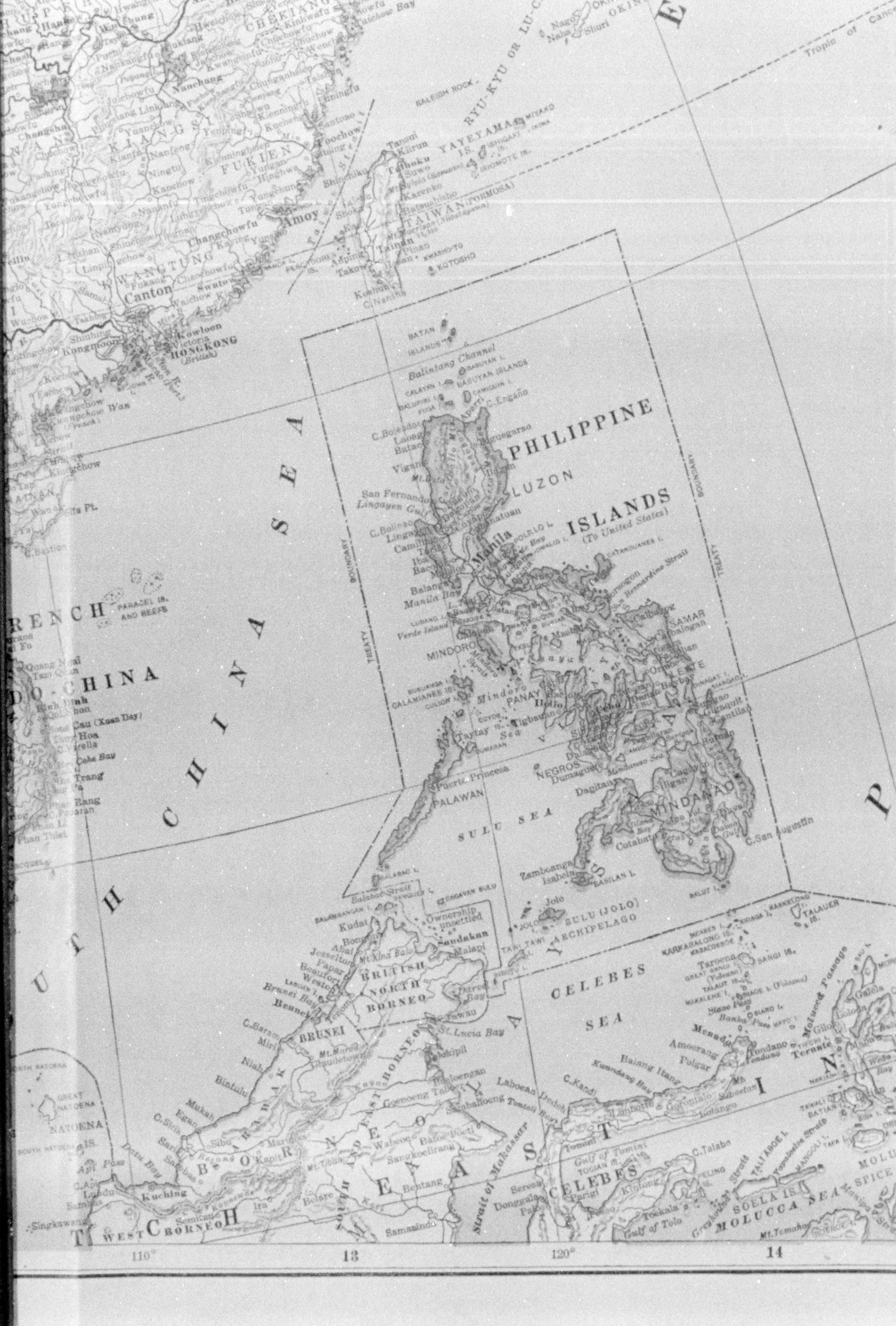


UCHISTAN
Quetta
Khelat
Karachi
Mouths of the Indus
Hyderabad
Lahore
Amritsar
Multan
Patiala
Delhi
Meerut
Bikaner
Jodhpur
RAJPUTANA AGENCY
Indian Desert
Jaipur
Ajmer
Gwalior
Agra
Lucknow
Cawnpore
Allahabad
Benares
UNITED PROVINCES
Nepal
Katmandu
HIMALAYA MOUNTAINS
Gangtok
BHUTAN
Darjeeling
Patna
Gaya
Bhagalpur
BIHAR AND ORISSA
Calcutta
Mouths of the Ganges
Gulf of Cutch
Dwarka
Porbandar
Ahmadabad
Baroda
Surat
Gulf of Cambay
Daman (Port.)
Diu (Port.)
CENTRAL INDIA AGENCY
Indore
Bhopal
Jubbulpore
CENTRAL PROVINCES AND BERAR
Nagpur
Raipur
Cuttack
Puri
Chilka Lake
False Point
Bombay
Poona
Nasik
Aurangabad
HYDERABAD
Hyderabad
Secunderabad
Sholapur
Kolhapur
Ratnagiri
Belgaum
Panjim (New Goa)
Marmagao
GOA (Port.)
Vizagapatam
Vizianagram
Cocanada
Mouths of the Godavari
Yanaon (Fr.)
Masulipatam
Mouths of the Kistna
Guntur
Kurnool
Bellary
Nellore
Madras
MYSORE
Bangalore
Mysore
Mangalore
Calicut
Mahe (Fr.)
Cannanore
Tellicherry
Malabar Coast
Coromandel Coast
Pondicherry (Fr.)
Cuddalore
Karikal (Fr.)
Negapatam
Trichinopoly
Tanjore
Madura
Coimbatore
Cochin
Alleppey
Quilon
Trivandrum
Tinnevelly
Tuticorin
Cape Comorin
Palk Strait
Gulf of Manaar
Jaffna
Trincomalee
Anuradhapura
Kandy
Colombo
CEYLON
Batticaloa
Adams Pk.
Galle
Matara
LACCADIVE ISLANDS
Nine Degree Channel
MINICOY I.
Eight Degree Channel
MALDIVE ISLANDS (To Ceylon)
Cardiva Channel
MALE I.
ADD MATI
SEA
BAY OF BE
I N D I
O C E A N
TIBET
70°
9
80°
Longitude East 10 from Greenwich
90°

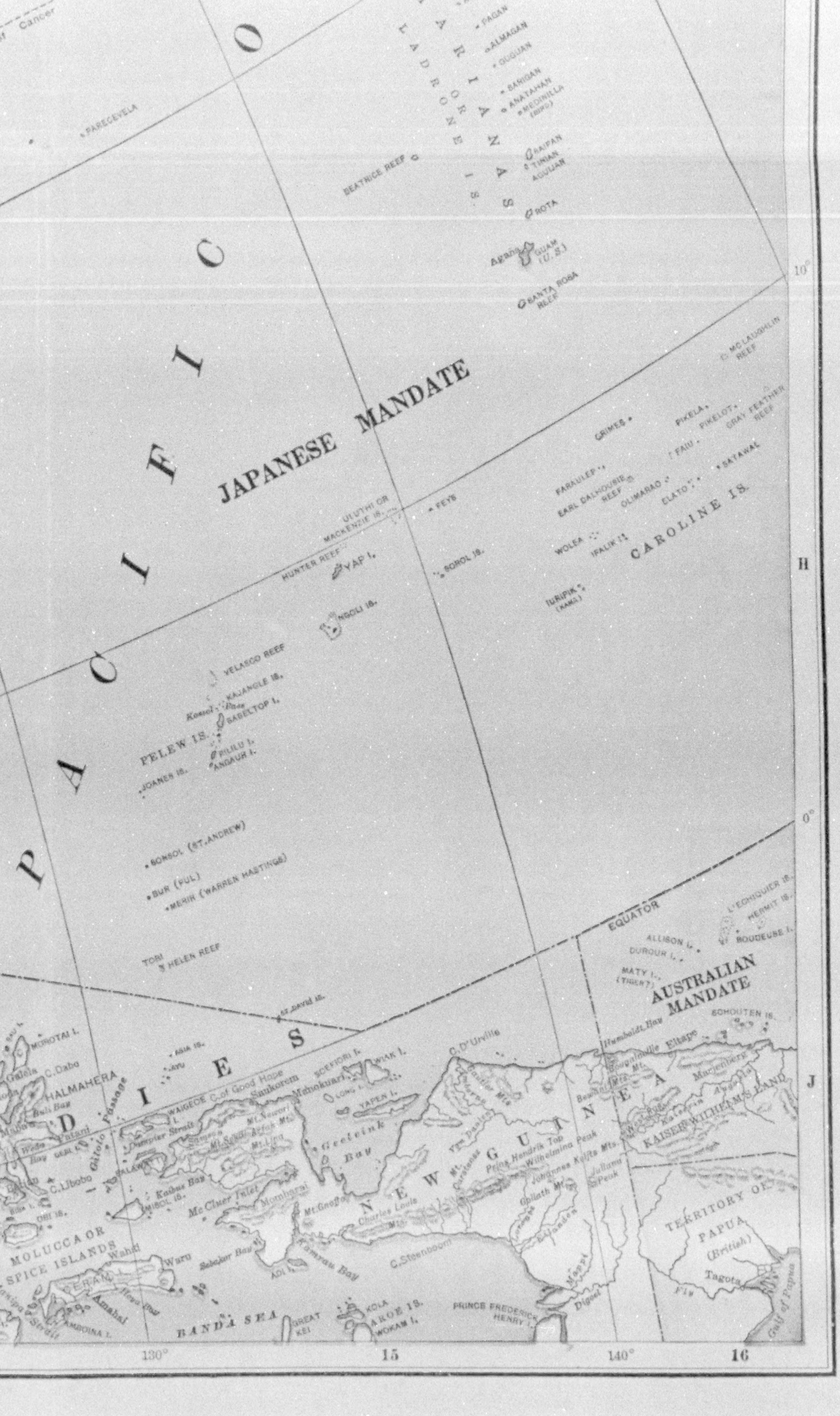
XUM


T I B E T
C H I N A
S Z E C H W A N
Chengtu
Chungking
Lhasa
BHUTAN
Calcutta
Mouths of the Ganges
Chittagong
Akyab
Combermere Bay
Kyaukpyu
Ramree I.
Cheduba I.
B U R M A
Mandalay
Bhamo
Myitkyina
Rangoon
Bassein
Gulf of Martaban
Mouths of the Irrawaddy
Moulmein
Cape Negrais
Y U N N A N
Yunnanfu
K W E I C H O W
Kweiyang
H U N A N
Changsha
K W A N G S I
Kweilin
Nanning
Hanoi
Haiphong
T O N K I N
Gulf of Tonkin
Hainan
Luang Prabang
Hue
Tourane
Fai Fo
FRENCH
INDO-CHINA
Quang Ngai
Qui Nhon
Nha Trang
Phan Thiet
Saigon
Cholon
C. St. Jacques
COCHIN CHINA
Mouths of the Mekong
Condore I.
Cambodia Pt.
CAMBODIA
Great Lake
Angkor
Pnompenh
Kampot
Phu Quoc I.
S I A M
Bangkok
Korat
Chiengmai
Gulf of Siam
Koh Samui
Bandon Bay
Kra Isthmus
Mergui
MERGUI ARCHIPELAGO
Tavoy
B E N G A L
ANDAMAN ISLANDS
NORTH ANDAMAN
MIDDLE ANDAMAN
SOUTH ANDAMAN
Port Blair
LITTLE ANDAMAN
Duncan Passage
Coco Channel
NARCONDAM I.
BARREN I.
Ten Degree Channel
CAR NICOBAR
NICOBAR ISLANDS
Sombrero Channel
GREAT NICOBAR
Malay Peninsula
Puket
Nakawn Sritamarat
Singora
Kota Bharu
Kuala Trengganu
Alor Star
George Town
Penang
Kuala Lumpur
FEDERATED MALAY STATES
STRAITS SETTLEMENTS
Malacca
Singapore
Malacca Strait
S U M A T R A
Olee Lheu
Kota Radja (Achin)
Medan
SIMEULOE OR BAHI I.
NIAS I.
RIOU ARCHIPELAGO
ANAMBAS IS.
NORTH NATOENA
GREAT NATOENA
SOUTH NATOENA IS.
SOUTH
D U T C H
WEST
Singkawang
PARACEL AND REEFS
90°
11
12
110°

XUM


PHILIPPINE ISLANDS (To United States)
LUZON
Manila
MINDORO
PANAY
NEGROS
SAMAR
LEYTE
MINDANAO
PALAWAN
SULU SEA
SULU (JOLO) ARCHIPELAGO
CELEBES SEA
MOLUCCA SEA
SOUTH CHINA SEA
FRENCH INDO-CHINA
PARACEL IS. AND REEFS
TAIWAN (FORMOSA)
RYU-KYU OR LU-CHU
FUKIEN
KIANGSI
KWANGTUNG
CHEKIANG
Canton
Amoy
HONGKONG (British)
Kowloon
BRITISH NORTH BORNEO
BRUNEI
SARAWAK
BORNEO
WEST BORNEO
SOUTH AND EAST BORNEO
Strait of Makassar
CELEBES
EAST INDIES
NATOENA IS.
Kuching
Sandakan
Zamboanga
Jolo
Balabac Strait
Balintang Channel
BATAN ISLANDS
BABUYAN ISLANDS
San Bernardino Strait
Ownership unsettled
TREATY BOUNDARY
Tropic of Cancer
110°
13
120°
14

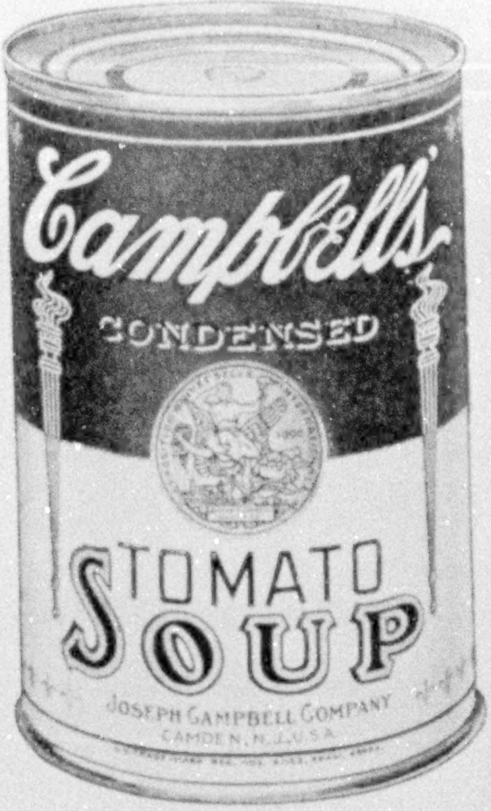
XUM


of Cancer
PAREGEVELA
PAGAN
ALMAGAN
GUGUAN
SARIGAN
ANATAHAN
MEDINILLA
MARIANAS OR LADRONE IS.
BEATRICE REEF
SAIPAN
TINIAN
AGUIJAN
ROTA
Agaña
GUAM (U.S.)
SANTA ROSA REEF
O C E A N
P A C I F I C
10°
JAPANESE MANDATE
MC LAUGHLIN REEF
GRIMES
PIKELA
PIKELOT
GRAY FEATHER REEF
FARAULEP
FAIU
EARL DALHOUSIE REEF
OLIMARAO
ELATO
SATAWAL
ULUTHI OR MACKENZIE IS.
FEYS
CAROLINE IS.
WOLEA
IFALIK IS.
HUNTER REEF
YAP I.
SOROL IS.
H
TURIPIK (NAMU)
NGOLI IS.
VELASCO REEF
KAJANGLE IS.
Kosoel Pass
BABELTOP I.
PELEW IS.
PILILU I.
ANGAUR I.
JOANES IS.
0°
SONSOL (ST. ANDREW)
BUR (PUL)
MERIR (WARREN HASTINGS)
EQUATOR
L'ECHIQUIER IS.
HERMIT IS.
ALLISON I.
BOUDEUSE I.
DUROUR I.
TORI
HELEN REEF
MATY I. (TIGER?)
AUSTRALIAN MANDATE
ST. DAVID IS.
SCHOUTEN IS.
Humboldt Bay
MOROTAI I.
ASIA IS.
C. D'Urville
Galela
C. Dabo
AYU
WAIGEOE
C. of Good Hope
Sankorem
SOEFIORI I.
WIAK I.
HALMAHERA
Mnokuari
LONG I.
YAPEN I.
J
D I E S
Buli Bay
Patani
Dampier Strait
Geelvink Bay
KAISER WILHELM'S LAND
Weda Bay
GEBI I.
Gilolo Passage
SALAWATI I.
Prins Hendrik Top
Wilhelmina Peak
Johannes Keltz Mts.
Juliana Peak
C. Lbobo
Kaibus Bay
MISOL IS.
Mc Cluer Inlet
Momberai
Mt. Goodrich
N E W   G U I N E A
OBI IS.
TERRITORY OF PAPUA (British)
MOLUCCA OR SPICE ISLANDS
Wahai
Waru
Sebakor Bay
ADI I.
Kamrau Bay
Charles Louis Mts.
C. Steenboom
CERAM
Amahai
AMBOINA I.
BANDA SEA
GREAT KEI
KOLA
AROE IS.
WOKAM I.
PRINCE FREDERICK HENRY I.
Digoel
Tagota
Fly
Gulf of Papua
130°
15
140°
16

XUM

XUM

I'm speedy and sure with my service.
The moment you're ready, it's there—
And no worry or need to be nervous
"Campbell's all" is my score against care.



"Ready?" "Serve!"

In just a little more time than it takes to say it, your plate of Campbell's Soup, steaming and deliciously hot, stands ready on the table. No fuss, no bother. You have all the enjoyment, while the work is done for you beforehand in Campbell's famous kitchens.

Campbell's Tomato Soup

The pure essence of tomatoes that ripen on the vine in the sunshine, blended with granulated sugar, creamery butter, and other enticing ingredients, is delightfully appetizing. Serve it as a Cream of Tomato, and you have a pleasing variation even more nourishing and invigorating.

A new Campbell's Soup

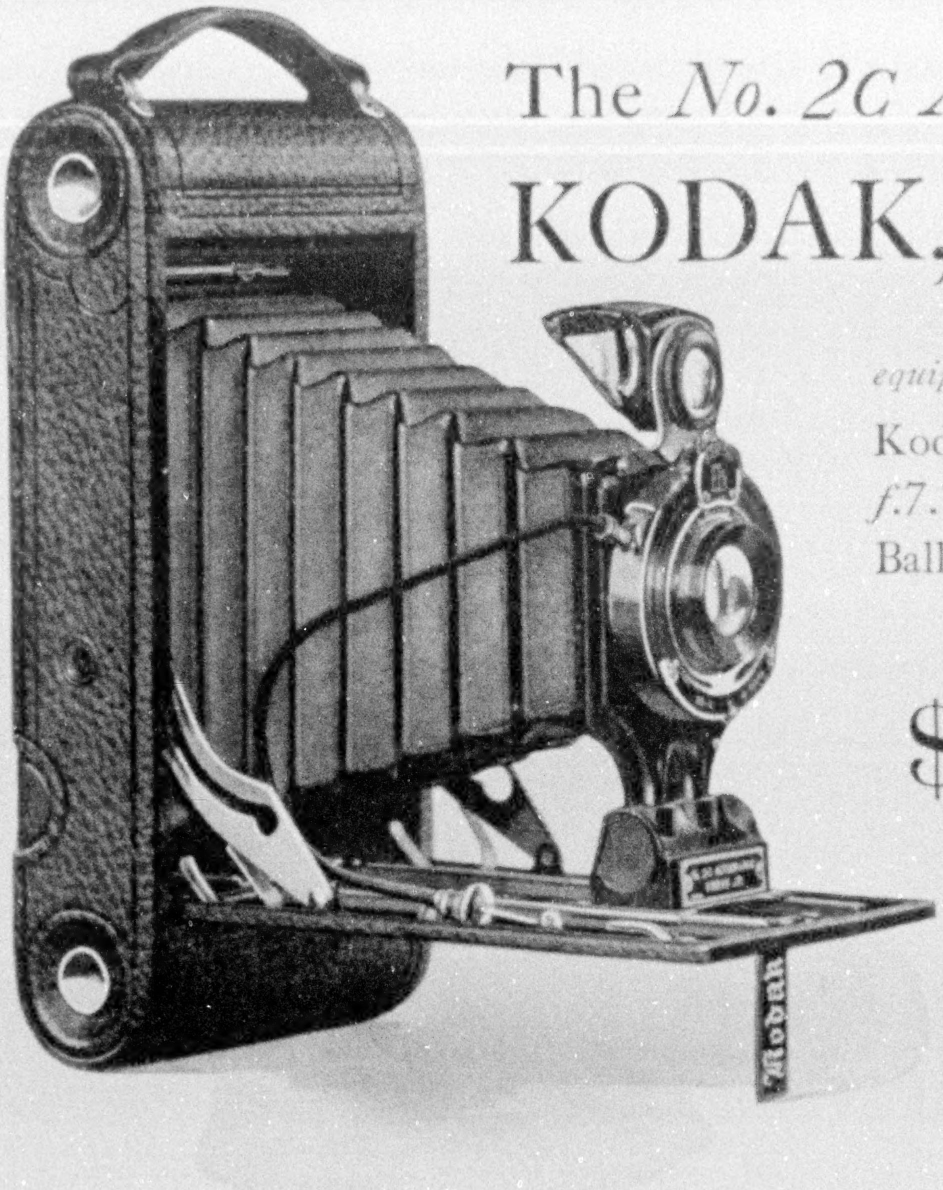
Campbell's Bean Soup, an old favorite—a delicious soup that everybody likes has been added to Campbell's famous 21 "kinds." Ask your grocer for it.

21 kinds **15c a can**

Campbell's Soups

LOOK FOR THE RED AND WHITE LABEL

XUM



The *No. 2C Autographic*
KODAK, Junior

equipped with

Kodak Anastigmat
f.7.7 lens and Kodak
Ball Bearing shutter

$25.00

This Camera fits into a niche, all its own. The size of the picture it makes, 2⅞ x 4⅞ inches, is particularly pleasing; is almost up to the full post card size—and yet the camera itself is small, light, convenient.

The Kodak Anastigmat lenses are made to exactly fit Kodak requirements. They are not merely an adaptation of a lens to the Kodak. They are a Kodak product designed to fit Kodaks, and in each case designed with particular reference to the size and type of Kodak and Kodak shutter that they are to be used with. The *f.7.7* lens used on the *2C* Kodak has more speed than the best of the rectilinear lenses and is at least equal to the best anastigmats in depth, sharpness and flatness of field.

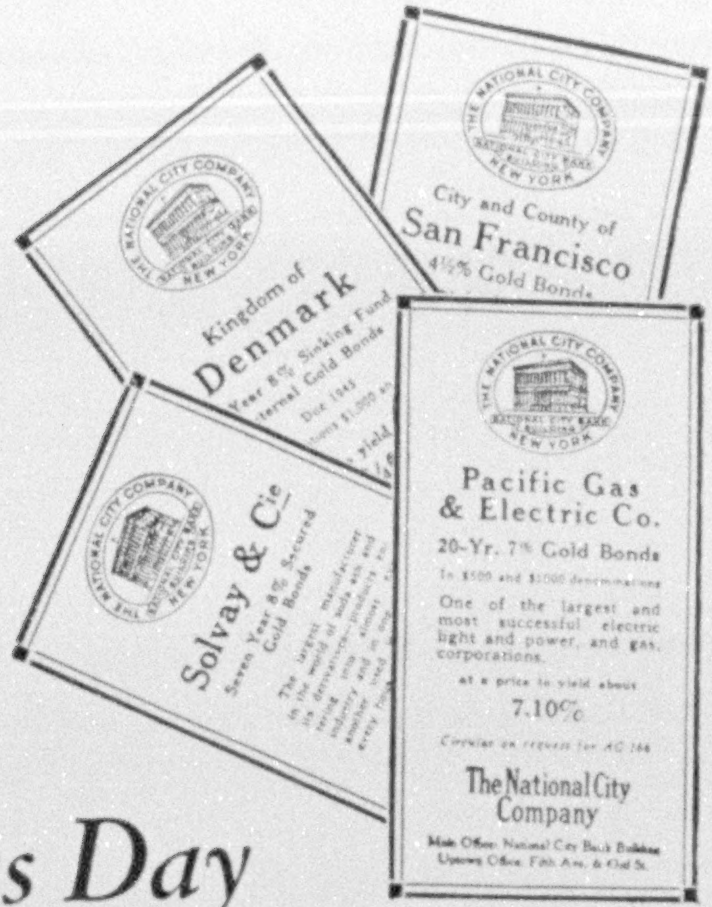
The Kodak Ball Bearing shutter has speeds of $\frac{1}{25}$, $\frac{1}{50}$ and $\frac{1}{100}$ of a second for "snapshots", has the usual time and "bulb" actions for prolonged exposures. It is an unusually reliable shutter, works smoothly and is quiet in its action.

The No. 2C Junior is covered with genuine grain leather, is finely finished in every detail, is extremely simple in operation, is "autographic", of course and, with the Kodak Anastigmat lens, produces negatives having that crispness and sharpness that are characteristic of the true anastigmat.

The price, $25.00, includes the excise war tax.

All Dealers'

EASTMAN KODAK COMPANY, Rochester, N Y., *The Kodak City*



Kingdom of
Denmark

City and County of
San Francisco
4½% Gold Bonds

Solvay & Cie
Seven Year 8% Secured
Gold Bonds

Pacific Gas
& Electric Co.
20-Yr. 7% Gold Bonds
In $500 and $1000 denominations
One of the largest and most successful electric light and power, and gas, corporations.
at a price to yield about
7.10%
Circular on request for AC 166
The National City
Company
Main Office: National City Bank Building
Uptown Office: Fifth Ave. & 43rd St.

Every Business Day

in a hundred papers throughout this country, the very latest investment opportunities are called to your attention.

The attractiveness of the issues offered—the liberal yield—the strength behind the bonds—lead us to recommend them to our clients.

Look for these offerings
from day to day

Our complete Monthly Offering Sheet listing a wide range of bonds will be sent on request for AN-163.

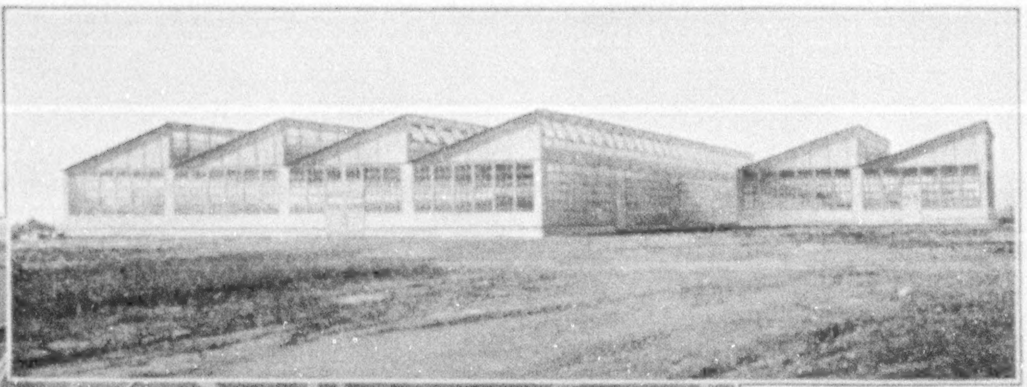
The National City Company

National City Bank Building, New York
Offices in more than fifty cities
BONDS · PREFERRED STOCKS · ACCEPTANCES

THE NATIONAL CITY COMPANY
NATIONAL CITY BANK BUILDING
NEW YORK

"Mention The Geographic—It identifies you"

Exterior View Truscon Standard Building, Saw-tooth type McGill Manufacturing Company, Valparaiso, Indiana.



Interior View Truscon Standard Building, Saw-tooth type Mobile Tractor Company, Mobile, Alabama.

Buy Your Standard Building Now

Material Costs Are Low—Erection Costs Are Low

Truscon Standard Buildings possess every requirement needed for the modern factory building. Perfectly daylighted, admirably ventilated, easily heated, and thoroughly fire-resistant, their sunlit, airy interiors enable employes to do more and better work with less spoilage and at greatly reduced lighting costs.

Truscon Standard Buildings are the most economical type of permanent construction. Built entirely of steel panels, steel sash, and steel units, the sections can be easily and quickly handled. Further, these buildings can be enlarged or taken down and re-erected in a new location at a 100% salvage value.

Side Walls and roof are manufactured from Truscon Alloy Steel, which has proven its superior durability and permanence by exposure tests over a period of years.

Many types of the daylight variety of Truscon Standard Buildings are furnished, including Monitor, Saw-tooth, and Hip-roof types (with lantern if desired). They may be had in practically every size.

Return coupon today, checking the size and the purpose of the building which you require

TRUSCON STEEL COMPANY
YOUNGSTOWN, OHIO

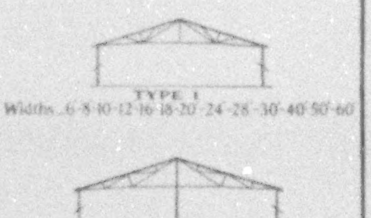
Warehouses and Sales Offices in Principal Cities

TRUSCON
STANDARD BUILDINGS

INFORMATION COUPON

Diagrams show Types and sizes of
TRUSCON STANDARD BUILDINGS
HEIGHTS...Curb to Eave 8'0" to 21'4"

LENGTHS...Types 1,2,3 &4 any Multiple of 20'
LANTERN...12'0" wide provided at Ridge of any Building 40'0" or more in width


Side Bay 16 - 20 25 - 30
Center Bay 18 - 20 - 24 28 - 30
Side Bay 20 - 23 26 - 36
Center Bay 20 - 24 - 28 30 - 40 50 - 60

TYPE 1
Widths...6-8-10-12-16-18-20-24-28-30-40-50-60

TYPE 2
Widths...40 - 50 or 60

TYPE 3
Widths...50-52-56-58-60-64-68-70-74-78-80-84-90

TYPE 4
Widths...80 or 100 (4 Bays @ 20 or 25)

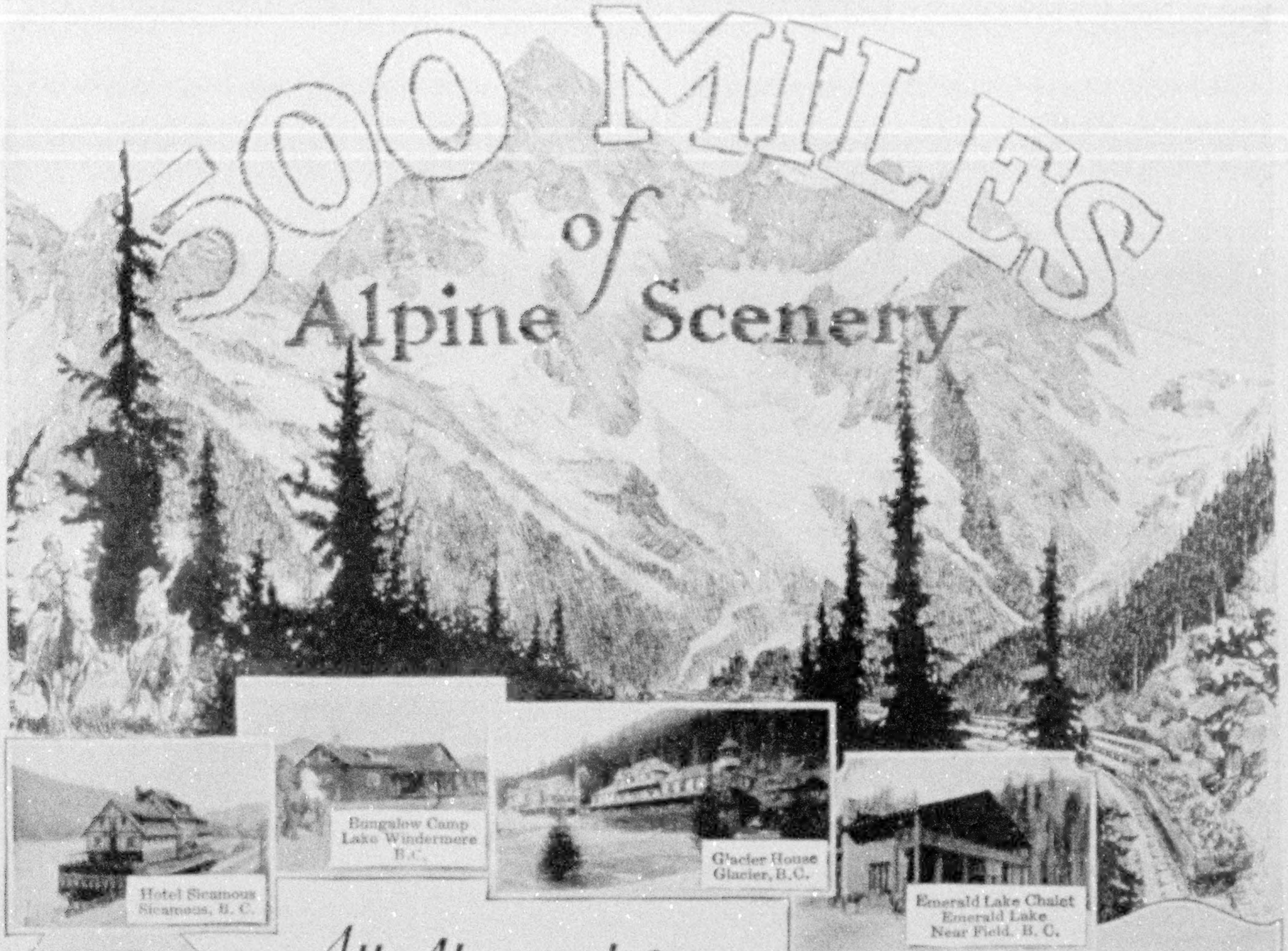
TYPES 3M & 3MS
Widths 60-64-68-70-74-80-84-90-92-100-102-110-112-120
Lengths...Multiples of 8'0" plus 4'0"

TYPE 4 V
Width...104 Lengths...Multiples of 16'0" plus or Minus 20'

SAWTOOTH
Widths...Any Multiple of 28'0"
Lengths...Multiples of 16'0" plus or minus 2'0"

Truscon Steel Company, Youngstown, Ohio
Send Catalog and Information on Truscon Standard Buildings. Type ____________ Width ____________ ft.,
Length ____________ ft., Height ____________ ft.
To be used for ______________________
Name ______________________
Address ______________________

500 MILES of Alpine Scenery


Hotel Sicamous
Sicamous, B. C.

Bungalow Camp
Lake Windermere
B. C.

Glacier House
Glacier, B.C.

Emerald Lake Chalet
Emerald Lake
Near Field, B. C.

All Aboard for Canada's Alpine Play-Ground

So Easy to Reach

Vancouver Hotel
Vancouver, B. C.

Empress Hotel
Victoria, B. C.

Chateau Lake Louise
Lake Louise, Alberta

Banff Springs Hotel
Banff, Alberta

Do you want the thrill of your life—sports and outdoor activities in Alpine settings of startling grandeur? Then plan to spend your vacation in the Canadian Pacific Rockies, that Mountain Garden of the Giants — Five hundred miles of uninterrupted mountain scenery from Banff to Victoria, B. C.

From June to September the Canadian Pacific Rockies offer you romantic trails to explore afoot or on horseback, roads for tally-ho or motor, ice capped peaks and glaciers for climbing, golf and tennis, lakes and mountain streams alive with trout, big game hunting with camera, or with rifle in the Fall. A chain of luxurious hotels from Banff and Lake Louise to Vancouver and Victoria, with mountain chalets at Glacier, Emerald Lake and Sicamous, bungalow camps at Field and Lake Windermere.

A Holiday in Canada is an education in itself.

Write, or call for particulars.

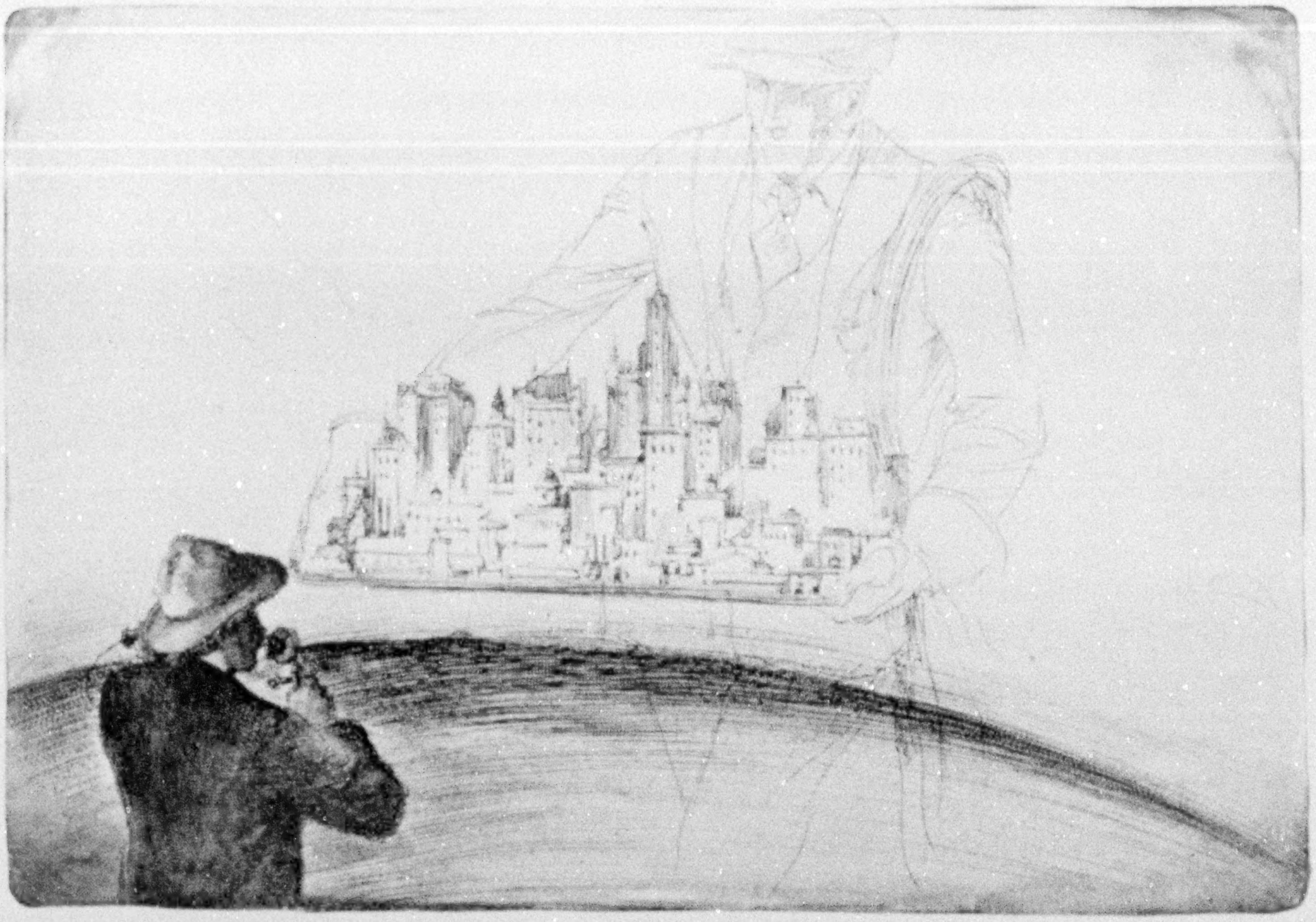
And it is so easy to reach over the

CANADIAN PACIFIC RAILWAY

Known the World over for the Excellence of its Service

Canadian Pacific Passenger Offices and Agencies in the United States

Atlanta, Ga.	220 Healey B'ldg.
Boston, Mass.	332 Washington St.
Buffalo, N. Y.	11 So. Division St.
Chicago, Ill.	140 South Clark St.
Cincinnati, O.	430 Walnut St.
Cleveland, O.	1040 Prospect Ave.
Detroit, Mich.	1239 Griswold St.
Los Angeles, Cal.	605 South Spring St.
Minneapolis, Minn.	611 Second Ave. South
New York, N. Y.	1231 B'way, cor. 30th St. Cor. Madison Ave. & 44th St. after June 1st
Philadelphia, Pa.	629 Chestnut St.
Pittsburg, Pa.	340 Sixth Ave.
Portland, Ore.	55 Third St.
St. Louis, Mo.	418 Locust St.
San Francisco, Cal.	675 Market St.
Seattle, Wash.	608 Second Ave.
Tacoma, Wash.	1113 Pacific Ave.
Washington, D. C.	1419 New York Ave.



Bring Me A City!

Heeding no barrier of river, mountain, forest or desert; unmindful of distance; the telephone has spread its network of communication to the farthest outposts of our country.

The ranchman, a score of miles from his nearest neighbor, a hundred miles from the nearest town, may sit in the solitude of his prairie home and, at will, order the far-distant city brought to him. And the telephone obeys his command.

Time and space become of small account when, through desire or necessity, you would call across a continent.

This is what the "Long Distance" service of the Bell telephone has accomplished for you; what science in construction has created; and what efficiency of workers has maintained.

You take the telephone as much for granted as you do the wonder of the changing seasons. You accept as a matter of course the company's ability to keep all the parts of this great nation in constant contact.

By so doing you offer a fine tribute to the Bell organization which has created this "Long Distance" service—a service no other country has attempted to equal.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*
And all directed toward Better Service

Dramatized Facts out of The Day's Work

No. 2

Where the Facts Came From

Airplane picture of Youngstown Pressed Steel Company plant at Warren, O. McCann-Harrison Co., Cleveland, O., consulting engineers. The circumstances of eight piping installations were similar in practically every respect to those in the Eskimo incident related below.

PLANT ENGINEER
PRESIDENT
CONSULTING ENGINEER
PRODUCTION MANAGER

A fine job for Eskimos

"We'll never get into production before April," growled the Production Manager. "Look at this weather! A snowstorm in November."

"April? Got to do better than that or face a big bunch of cancellations." The President spoke crisply.

The Consulting Engineer: "This building won't be enclosed before February 1st so that the piping contractors can get in."

"Not till then?" The President wheeled sharply. "You realize that the piping is the most important part of our equipment. We must be able to turn on heat the day the glass is in our windows."

"Only an Eskimo could pull a wrench here in January," smiled the Plant Engineer. And this kind of piping work takes keen Caucasian brains, close measuring to blueprints, accurate cutting and threading, straight lines and the perfect adjustments of real workmanship. It simply can't be done outdoors in zero weather."

"What kind of antique methods are you talking about?" demanded the President. "That work should be done indoors the way we always fabricate steel beforehand for steel buildings."

The Consulting Engineer turned. "That's just it. Forget the other estimates. Give all seven jobs to the Grinnell Company—the one organization that shop-assembles piping systems and sends them to the job ready for quick erection."

President: "I'm sold. We gain a month's output; our profits will almost pay for the whole piping job."

A Grinnell Industrial Piping Installation always starts with the fullest understanding of the service expected. Three thousand employees in eight great fabricating plants, working to blueprints, send sections of industrial piping equipment to 1,300 road men, who fit them into the building like odd shaped blocks into a child's puzzle.

Such modern engineering must be practical as well as creative, for on its soundness Grinnell Company places a guarantee—*a courageous guarantee behind ideas, men and materials.*

GRINNELL
INDUSTRIAL PIPING

Automatic Sprinkler Systems, Heating, Power and Process Piping

Your kind, their kind, every kind of Piping

Send for your copy of the Grinnell Bulletin. Address Grinnell Co., Inc., 293 W. Exchange St., Providence, R. I.

As the heirlooms of our ancestors become more valued with passing years, so does Karpen Furniture gracefully stand the test of time. Fortunate, indeed, are American home owners today, for this enduring furniture is available everywhere at reasonable prices.

Send to S. Karpen & Bros. Dept. A, Chicago or New York for the booklet of designs "Friendly Furniture"

Karpen Dealers Everywhere

KARPEN
FURNITURE

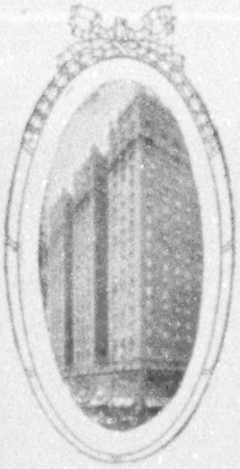
This trade mark on every piece

Karpen
Guaranteed
Upholstered
Furniture
CHICAGO—NEW YORK

The VANDERBILT Hotel

Thirty Fourth Street EAST at Park Avenue

New York City



Interesting people the world over have found The "Vanderbilt" an ideal Hotel. Overlooking, as it does, the distinguished Murray Hill Residential Section, The Vanderbilt Hotel, while quiet and restful, is convenient to fashionable shops, theaters, business centers, and railroad terminals. Six hundred sunlighted rooms, each with bath.

Walton H. Marshall, Manager

YOUR own personality and sympathy may be truly reflected in the correct design and careful construction of a permanent memorial of Barre Granite.

Our long and successful experience enables us to offer you a particularly sympathetic service.

Write for Booklet 3

Harrison Granite Co.
200 Fifth Avenue New York
807 Fine Arts Building, Chicago
1501 Kresge Building, Detroit
4927 Osage Avenue, Philadelphia
Works: Barre, Vt.
Member of Memorial Crafts Institute

HARRISON MEMORIALS

21—4

You Can't Escape

Tooth troubles if you leave a film

You should try this new method of teeth cleaning. Try it ten days without cost. It combats the film which dims the teeth and causes most tooth troubles. See and feel the results. To millions they are bringing cleaner, safer, whiter teeth.

The Tooth wrecker

Film is the great tooth wrecker. A viscous film clings to the teeth, enters crevices and stays. The ordinary tooth paste does not end it. Old ways of brushing leave much of it intact. And very few people have escaped the troubles which it causes.

It is the film-coat that discolors, not the teeth. Film is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea—a disease now alarmingly common.

A new dental era

Dental science has now found ways to combat that film. The methods have been amply proved by years of careful tests. Now millions employ them. Leading dentists everywhere advise them.

The methods are combined in a dentifrice called Pepsodent. And, to let all know how much it means, a ten-day tube is being sent to all who ask.

Five desired effects

Pepsodent brings five desired effects. It combats the teeth's great enemies as nothing has done before.

One ingredient is pepsin. Another multiplies the starch digestant in the saliva, to digest starch deposits that cling. The saliva's alkalinity is multiplied also. That to neutralize the acids which cause tooth decay.

Two factors directly attack the film. One of them keeps teeth so highly polished that film cannot easily adhere. Every application repeats these results.

Send the coupon for the 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears.

What you see and feel will be a revelation, and the book we send will explain how each effect is natural and necessary. It is important that you know this. Cut out the coupon now.

PAT. OFF

Pepsodent

REG. U. S.

The New-Day Dentifrice

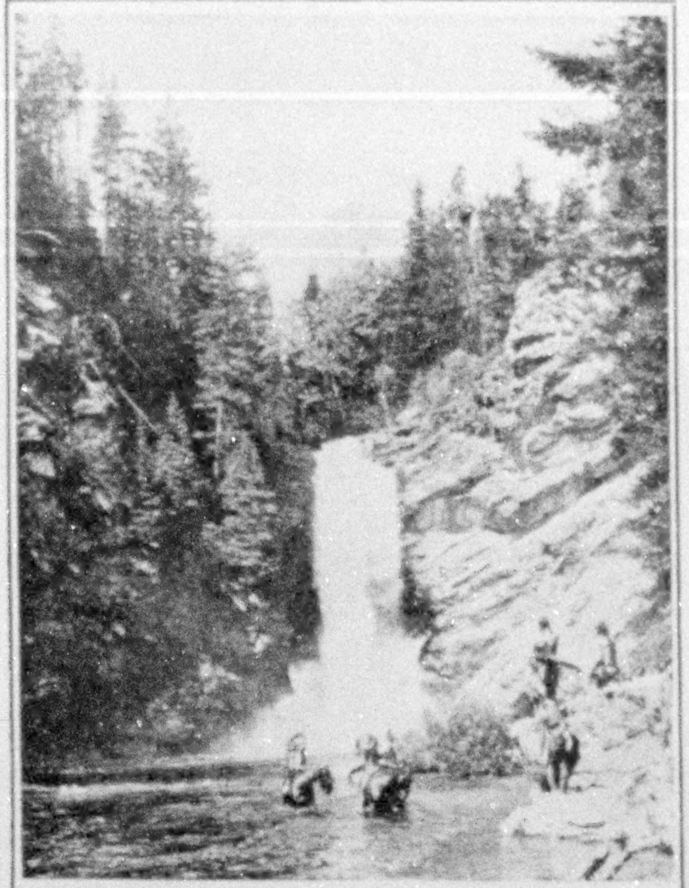
A scientific film combatant combined with two other modern requisites. Now advised by leading dentists everywhere and supplied by all druggists in large tubes.

10-Day Tube Free

540

THE PEPSODENT COMPANY,
Dept. 644, 1104 S. Wabash Ave., Chicago, Ill.:
Mail 10-Day Tube of Pepsodent to

Only one tube to a family



Glacier national park

Season, June 15-September 15

There's the lure of the wild with the comforts of home in Glacier National Park. Here, mid the rugged peaks and sapphire-blue lakes mirroring Alpine glaciers, Nature has put upon display a majestic and colorful pageant.

Modern hotels and Swiss chalets offer best accommodations. Tours by motor, saddle-horse and launch, by day, week or month. En route to North Pacific Coast, Alaska or California, visit Lake Chelan, Mt. Rainier and Crater Lake National Parks. "Glacier" is your only national park on the main line of a transcontinental railroad. Summer Tourist Fares—inquire of nearest ticket or tourist agent.

A. J. DICKINSON, *Passenger Traffic Manager*
GREAT NORTHERN RAILWAY
St. Paul, Minn.

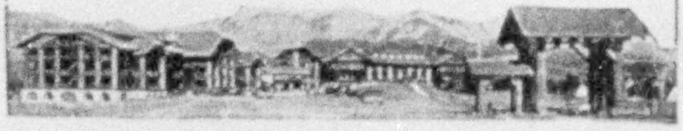
Write for aeroplane map and literature—Glacier National Park

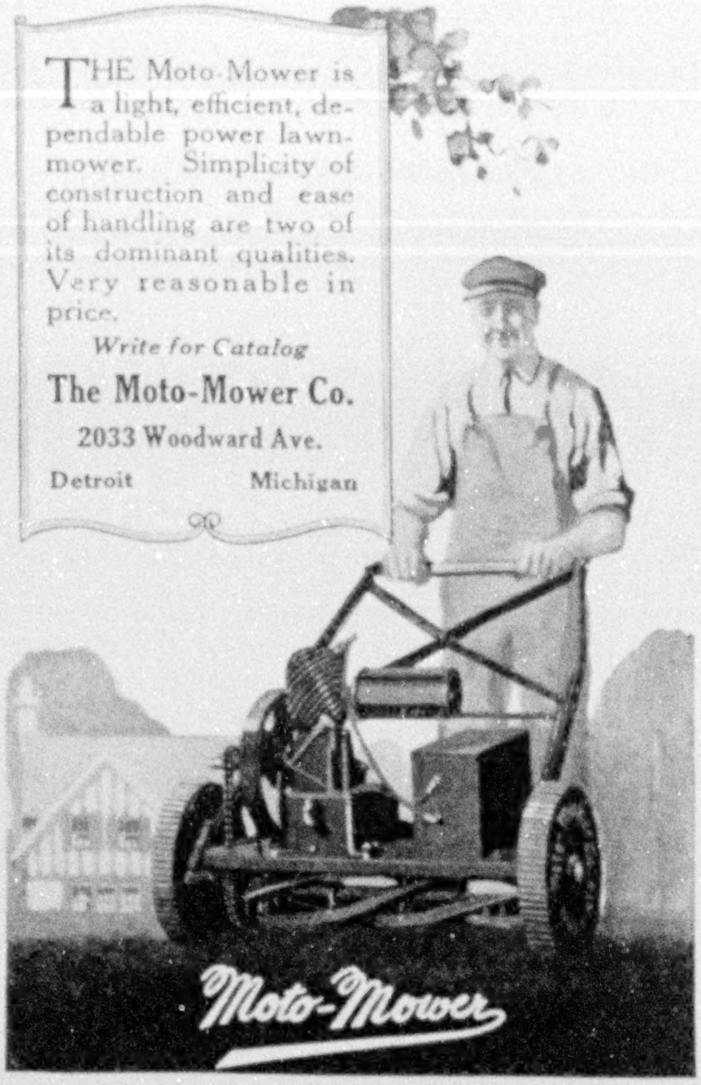
A. J. Dickinson
Pass. Traffic Manager, Great Northern Railway
Dept. 375, St. Paul, Minn.

Please send literature and aeroplane map of Glacier National Park.

Name ______________________

Address ______________________





THE Moto-Mower is a light, efficient, dependable power lawnmower. Simplicity of construction and ease of handling are two of its dominant qualities. Very reasonable in price.

Write for Catalog

The Moto-Mower Co.
2033 Woodward Ave.
Detroit Michigan

Near Seattle, on Puget Sound

SEND YOUR BOY TO
THE GREAT NORTHWEST
ENTER HIM AT

THE MORAN SCHOOL

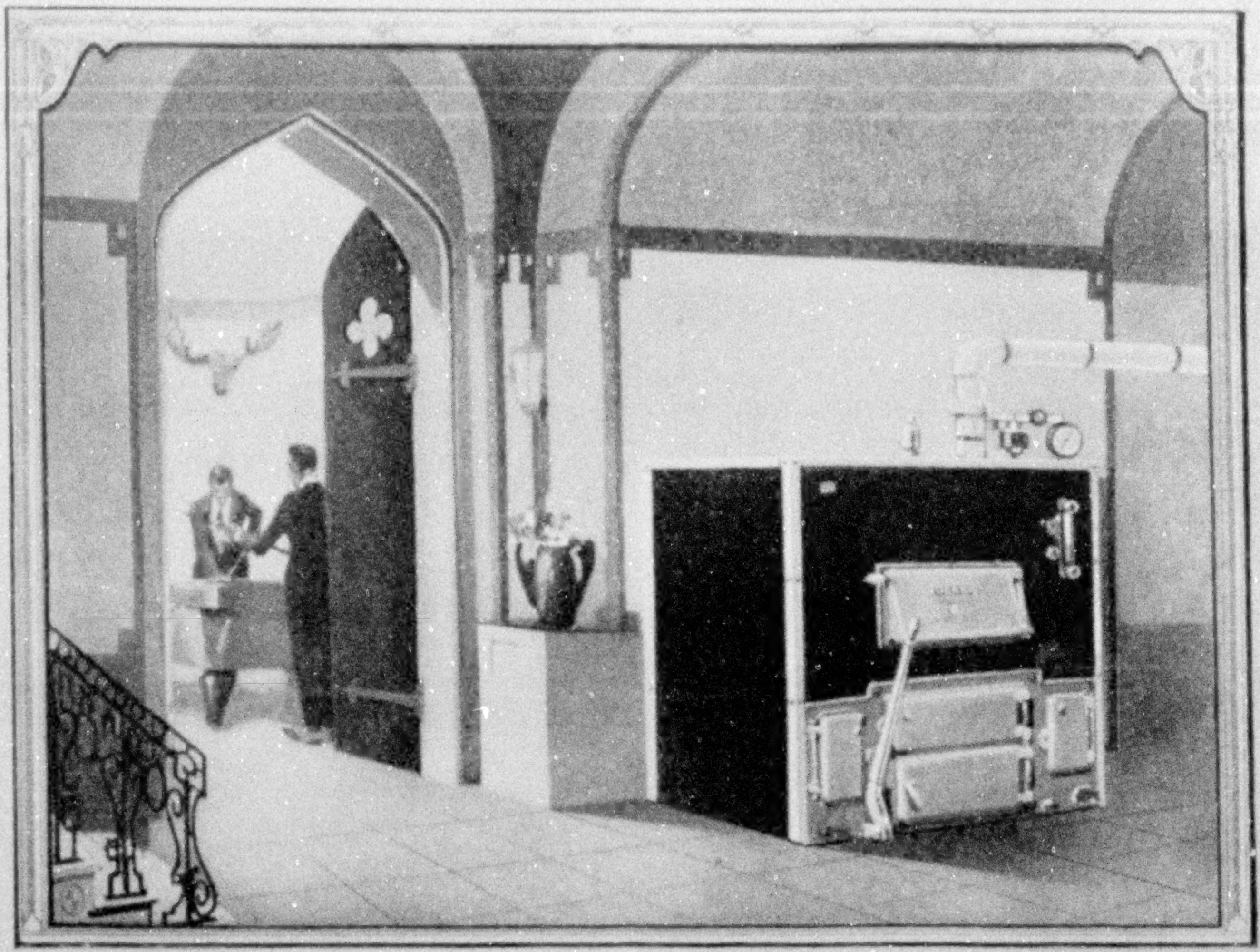
Most healthful climate in America! School in primeval forest, on salt water beach, amid superlative Far Western scenery. Association with Western boys broadens vision and builds virile men.

Distinctive boarding school for character-building. Gives that "something more" in education. Ten instructors, 60 boys. Uniforms, but not military. Graduates have all entered college, standing out in scholarship and as leaders in Harvard, Yale, Brown, Amherst, Penn, etc.

Ten carefully selected boys accepted for FALL OPENING, SEPT. 15. Tuition, $1,200.00. (Junior School: Moran-Lakeside.) Exceptional Summer program. For details write or wire

FRANK G. MORAN, M. A., Headmaster
Moran Schools **Seattle, Washington**

JUDD & DETWEILER, INC.
Master Printers
ECKINGTON PLACE AND FLORIDA AVE.
WASHINGTON, D.C.



THE IDEAL TYPE "A" HEAT MACHINE

OWNERS of this highly refined Heat Machine enjoy an average fuel saving of 33⅓%. This is shown by records of thousands of installations. Long recoaling periods and automatic control assure a luxurious heating service hitherto thought not obtainable in the private home.

The compact construction, handsome finish, dust-free jacket and gas-tight doors make it a feature of the remodeled basement.

Send for catalog showing heat test charts and construction detail.

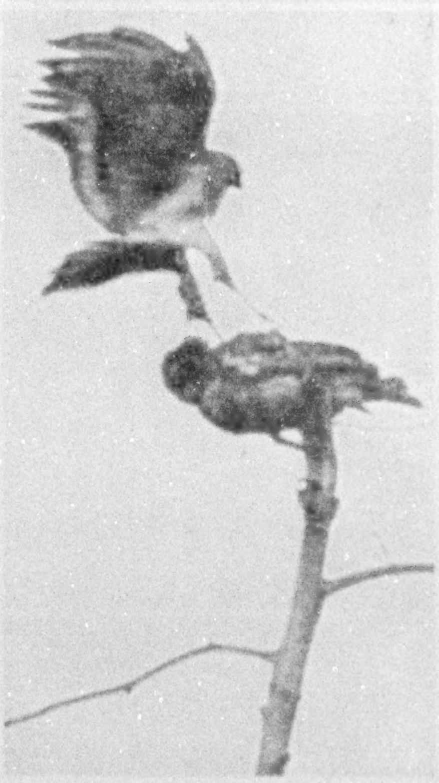
AMERICAN RADIATOR COMPANY

Write Dept. 55. NEW YORK and CHICAGO
Sales Branches and Showrooms in all large cities.

Copyright 1920 American Radiator Company

Take Up These Delightful Spring Hobbies

Let Birds and Beasts Add Zest to Your Every Outdoor Moment



HAWK STRIKING AT PREY
One of 300 unique illustrations

Springtime is Wingtime

The Book of Birds

Text by Henry W. Henshaw, George Shiras, 3rd, F. H. Kennard, Wells W. Cooke, and Gilbert Grosvenor.

250 bird portraits in full color by Louis Agassiz Fuertes

The rich color plates and 200 fascinating pages of text enable young and old to identify instantly and know intimately the birds singing about their homes or on walks through park, field, or woodland.

The authors inspire the reader with their own deep enthusiasm born of deep love of birds and the knowledge coming from life-long study of their habits. They let us into the intimate romances and family life of our feathered friends through rich chapters on "Common Birds," "The Warblers," "Game Birds," migrations, and attracting and photographing birds.

This wonder book should be on the table of every nature-loving home—especially where there are children to enjoy and profit and become protectors of birds.

Buckram, $3.00, postpaid in U. S. A.

Find Fun Among Your Furry Friends

The Outdoor Book Roosevelt Recommended

Wild Animals of North America

By Edward W. Nelson, Chief, U. S. Biological Survey.

177 Paintings in Full Color by Louis Agassiz Fuertes.

Given but a glimpse at scurrying bit of fur in dooryard, park, or woods, adult or child can quickly identify the animal with the aid of this wonder book. Study of our four-footed neighbors becomes a most delightful hobby.

Mr. Nelson, loving friend of all animals and deep scientific student and observer, with facile pen, lets us into the innermost secrets of these First Citizens of the Continent. From squirrel, mole, and field mouse to carnivorous Alaska Bear, he tells which are friends and to be trusted, which are enemies, and gives a new sense of the intelligence and instincts of Nature's tenants-at-large. The magic brush of Mr. Fuertes not merely has caught form and color, but portrays the character of his 177 subjects.

Invaluable to teacher, camp director, men and women who love outdoor life, sportsmen, and the children, who love this story-telling Noah's Ark.

Buckram, $3.00, postpaid in U. S. A.

"BABES IN THE WOODS"
These hungry American black bear twins were born in the great forests of the Yellowstone.

Ideal Gift to Suburban Friend, Sportsman, Child, or Teacher

CUT ON THIS LINE

Dept. H, National Geographic Society,
Washington, D. C.:

................................1921

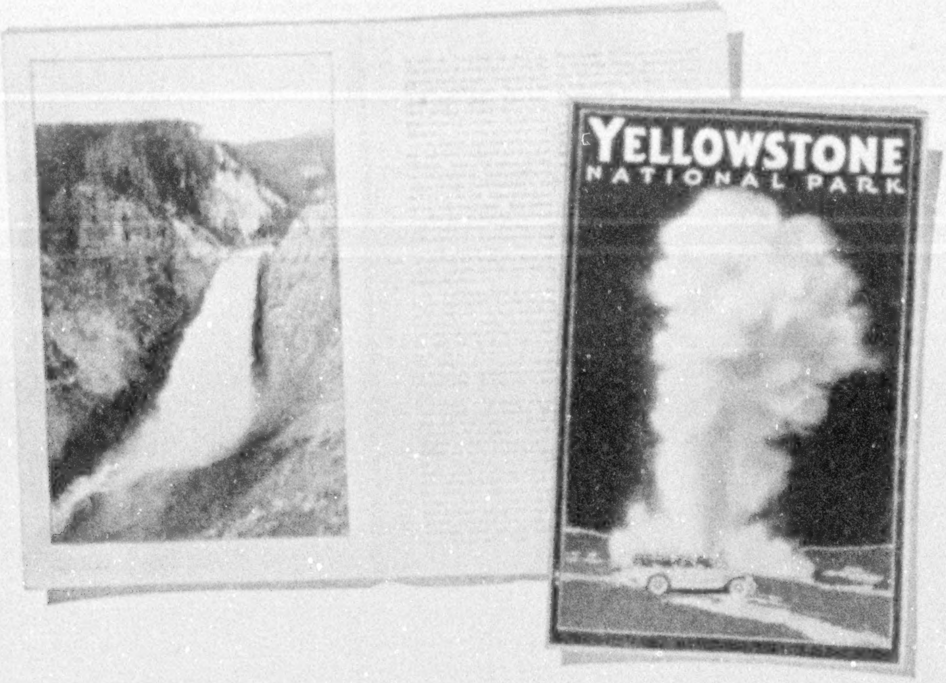
Enclosed ....Dollars

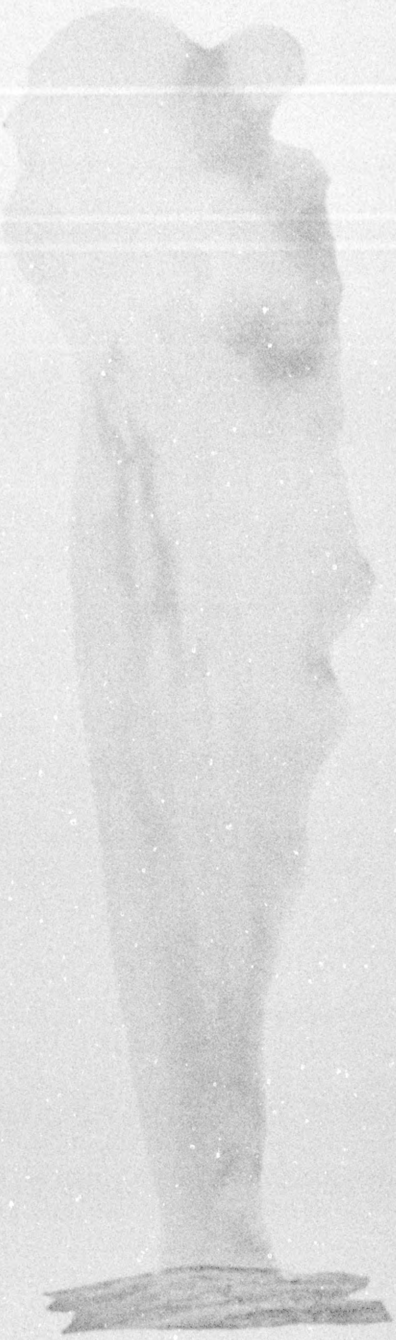
Please send ....copies The Book of Birds: ....copies Wild Animals of North America.

Name .... Address ....

(5-21)

Obtainable only from the Society's Headquarters





Old Faithful Geyser

A Free Book Descriptive *of* Yellowstone National Park

Write for your copy now

AN easy-chair route through the Wonderland of America—description of Yellowstone Park, richly illustrated. Contains maps, minute details regarding mud volcanoes, tinted pools, painted terraces, 20-mile-long Yellowstone Lake, canyons, cataracts, bears, bisons, deer, beavers, and other animals. Accurate information as to hotels, camps, transportation, what to wear—everything you want to know about Geyserland.

Tells how, for price of round-trip ticket to Yellowstone Park, you can make a "circle tour" to Yellowstone, returning by way of Denver. (Rocky Mountain National-Estes Park is conveniently reached by inexpensive side trip.) See map below. All on a Burlington-Northern Pacific Planned Vacation.

A *real* vacation—planned to take you into Yellowstone Park through the famous Gardiner Gateway, past Paradise Valley, Emigrant Peak, the Devil's Slide and Sepulcher Mountain; then out via motor over the Cody Road, named for Col. Wm. F. Cody ("Buffalo Bill"), over the mountains, around charming Sylvan Lake, past the tremendous Government irrigation dam, higher than the New York Flatiron Building, through bold and rugged Shoshone Canyon—"The most wonderful 90-miles in America." Then through Cheyenne to Loveland, Colorado (stop-over point for the side trip to Rocky Mountain-Estes Park). Continue on to Denver by motor or rail, where side trips to Denver's Mountain Parks, Colorado Glaciers, Grand Lake, the Pike's Peak region, Mesa Verde National Park, and other scenically famous places await the taking.

All—in connection with your trip to Yellowstone.

Write for booklet now.

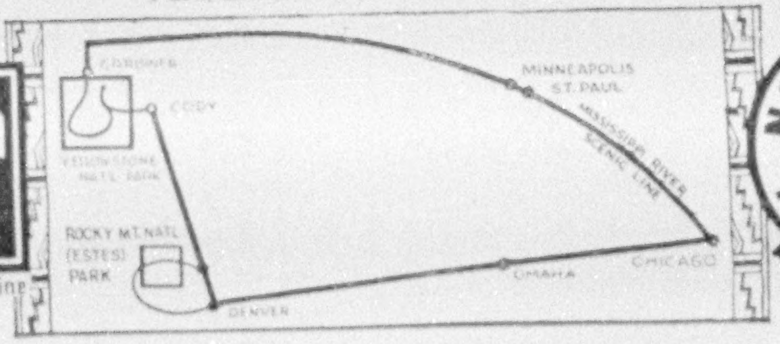
P. S. EUSTIS
Passenger Traffic Manager
C., B. & Q. R. R., Chicago

A. M. CLELAND
Passenger Traffic Manager
Northern Pacific Railway
St. Paul, Minn.

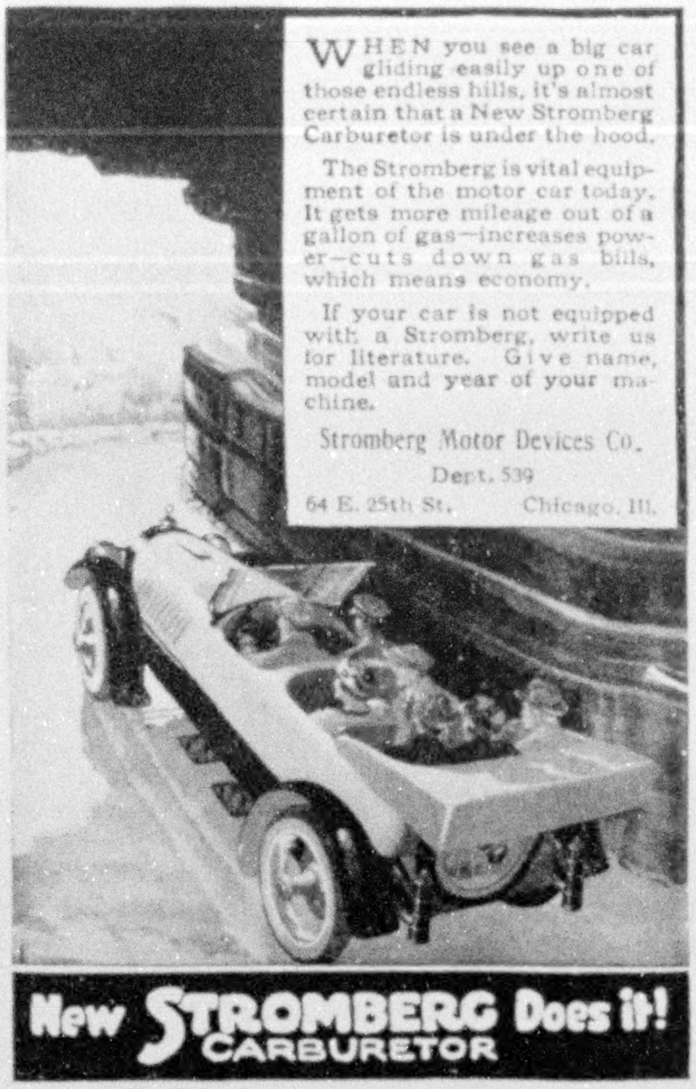
Burlington - Northern Pacific Planned Vacations

Three great wonder spots—Yellowstone Park, Rocky Mountain—Estes—Park, and Denver, all on one circle trip.

Burlington Route
The National Park Line



NORTHERN PACIFIC
YELLOWSTONE PARK LINE



WHEN you see a big car gliding easily up one of those endless hills, it's almost certain that a New Stromberg Carburetor is under the hood.

The Stromberg is vital equipment of the motor car today. It gets more mileage out of a gallon of gas—increases power—cuts down gas bills, which means economy.

If your car is not equipped with a Stromberg, write us for literature. Give name, model and year of your machine.

Stromberg Motor Devices Co.
Dept. 539
64 E. 25th St. Chicago, Ill.

New STROMBERG Does it! CARBURETOR

Sani-Flush

TRADE MARK REG. U. S. PATENT OFFICE

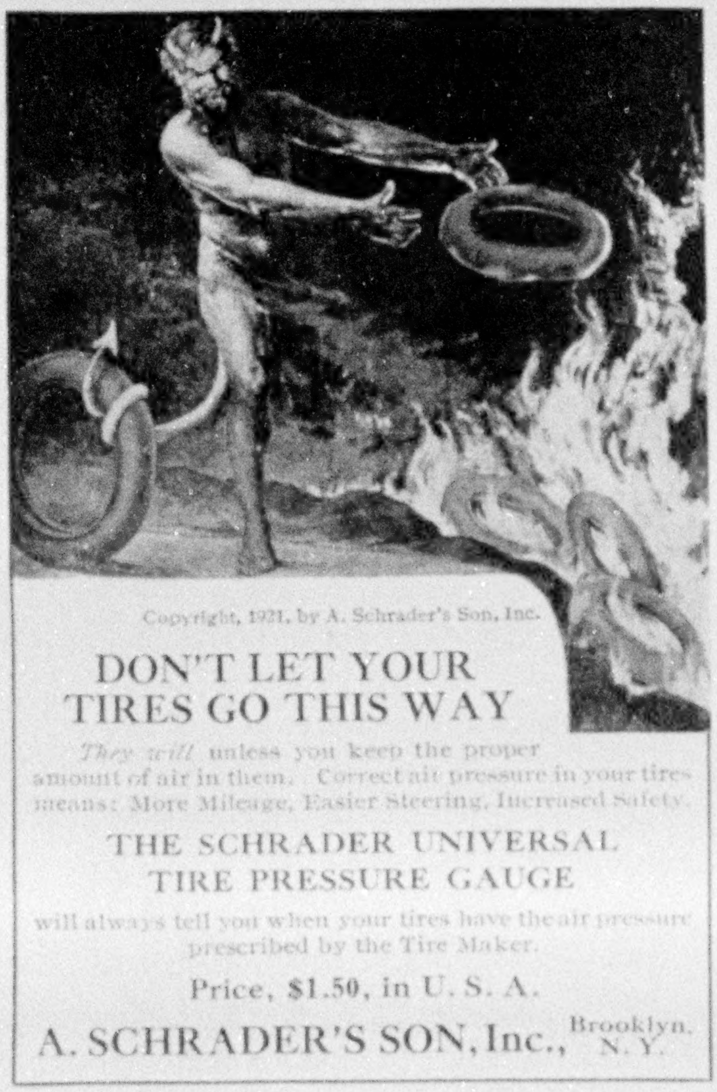
Cleans Closet Bowls Without Scouring

No Scrubbing—No Scouring

Sani-Flush will relieve you of the hard work of cleaning the closet bowl. Sprinkle a little into the bowl, according to the instructions on the can, and flush. It's white magic. All the unsightly stains are removed, leaving the bowl as spotlessly white as new—perfectly sanitary too, so that the use of disinfectants is not necessary.

Sani-Flush is sold at grocery, drug, hardware, plumbing and housefurnishing stores. If you cannot buy it locally at once, send 25c in coin or stamps for a full sized can postpaid. (Canadian price, 35c; foreign price, 50c.)

The Hygienic Products Co., Canton, O.
Canadian Agents:
Harold F. Ritchie & Co., Ltd., Toronto



Copyright, 1921, by A. Schrader's Son, Inc.

DON'T LET YOUR TIRES GO THIS WAY

They will unless you keep the proper amount of air in them. Correct air pressure in your tires means: More Mileage, Easier Steering, Increased Safety.

THE SCHRADER UNIVERSAL TIRE PRESSURE GAUGE

will always tell you when your tires have the air pressure prescribed by the Tire Maker.

Price, $1.50, in U. S. A.

A. SCHRADER'S SON, Inc., Brooklyn, N. Y.

Kills!

No Muss—No Mixing—No Spreading

Rat Bis-Kit quickly and surely does away with rats and mice. They die outdoors. There's a different bait in each Bis-Kit. No trouble. Just crumble up. Remember the name—Rat Bis-Kit. 25c and 35c at all drug and general stores.

The Rat Biscuit Co., Springfield, Ohio

Rat Bis-Kit

For Mice Too

TO
GREATER VISION THROUGH
OPTICAL SCIENCE
BAUSCH
& LOMB
RJR

Broadening the Worlds that Live About Us

NEW worlds for old! The art of optics has opened to mankind's knowledge a wider, a nobler vision. Through the science of astronomy, of surgery, of metallurgy, of bacteriological research, it has brought to human lives gifts priceless to man's safety and his advancement . . . . and among other optic instruments the binocular has achieved a worthy and a widely useful place.

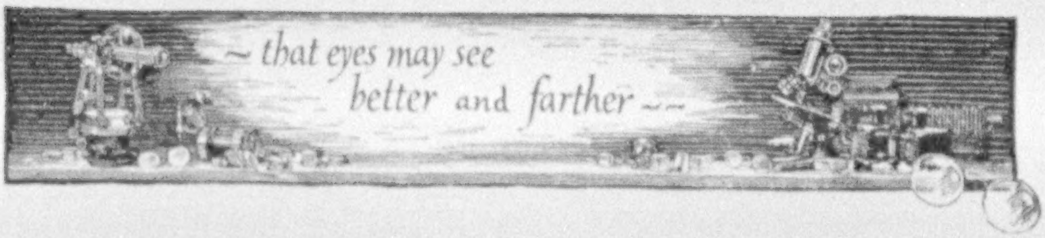
Through the binocular, new sights in Nature are revealed to man, in cloud, in far, veiled distance, in wood and field and stream; through the binocular we gain familiar insight into a world of unfamiliar Nature-lives about us . . . . . and the binocular can profitably be made our almost constant companion.

Whether we take a day's motor jaunt or walk country roads, whether we pursue our ordinary work or enjoy our vacation, the binocular will be found to sharpen the eyes, multiply their effectiveness; and widening as it does, not alone our visual but our mental horizon, achieve for man a wider, developing enjoyment in life. Motorist, tourist, aëroplanist, yachtsman, or average lover of sport—all can gain from the binocular an immediate benefit and pleasure.

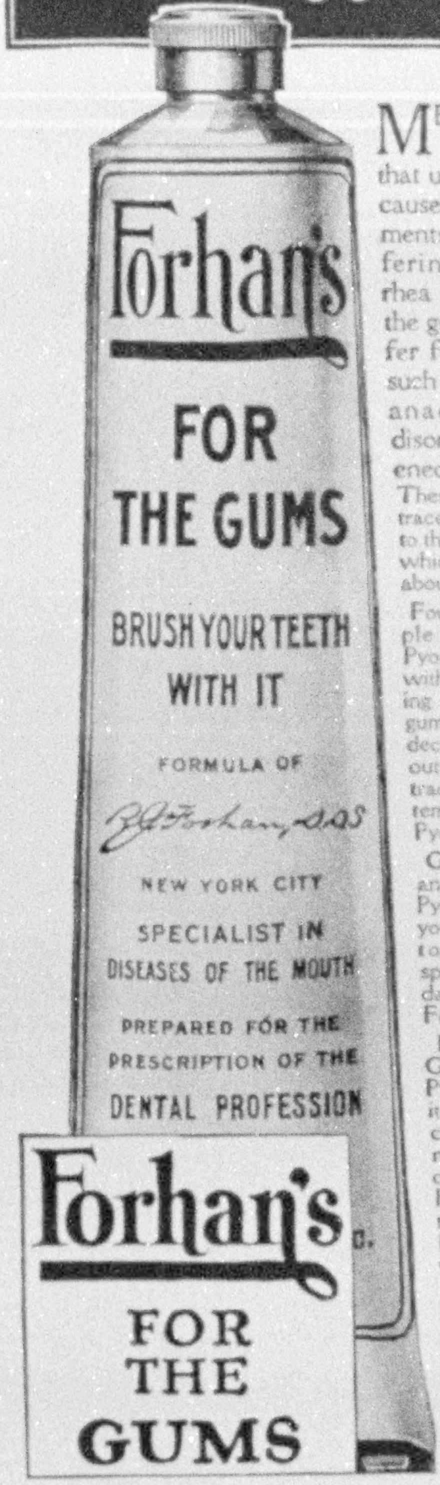
Thus in the field of human and familiar interests, as in that occupied by microscope, ophthalmic and photographic lens, and projection apparatus, Bausch & Lomb are giving to the world a service that they are proud to feel is of far-reaching import to science as it is to pleasure and to life.

BAUSCH & LOMB OPTICAL COMPANY . ROCHESTER, N. Y.

Makers of Eyeglass and Spectacle Lenses, Photographic Lenses, Microscopes, Balopticons Binoculars and other Optical Instruments



Science proves the danger of bleeding gums


Forhan's
FOR THE GUMS
BRUSH YOUR TEETH WITH IT
FORMULA OF
R.J. Forhan, D.D.S.
NEW YORK CITY
SPECIALIST IN DISEASES OF THE MOUTH
PREPARED FOR THE PRESCRIPTION OF THE DENTAL PROFESSION
Forhan's
FOR THE GUMS

MEDICAL science proves that unhealthy gums cause serious ailments. People suffering from Pyorrhea (a disease of the gums) often suffer from other ills, such as rheumatism, anaemia, nervous disorders or weakened vital organs. These ills have been traced in many cases to the Pyorrhea germs which breed in pockets about the teeth.

Four out of five people over forty have Pyorrhea. It begins with tender and bleeding gums. Then the gums recede, the teeth decay, loosen and fall out, or must be extracted to rid the system of the infecting Pyorrhea germs.

Guard your health and your teeth. Keep Pyorrhea away. Visit your dentist often for tooth and gum inspection, and make daily use of Forhan's For the Gums.

Forhan's For the Gums will prevent Pyorrhea—or check its progress—if used consistently. Ordinary dentifrices cannot do this. Forhan's will keep the gums firm and healthy, the teeth white and clean.

35c and 60c tubes in U. S. and Can.

Formula of
R.J. Forhan, D.D.S.

FORHAN CO.
New York

Forhan's, Ltd.
Montreal

DEAF?

Make Us Prove

That You Can Hear!

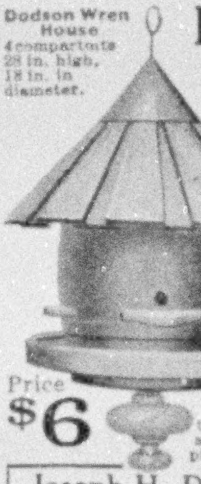
We do not expect those who are hard of hearing to take our word that the Acousticon will make them hear clearly once more—no one's word should be taken for that. We do expect, however, that for their own individual satisfaction, before giving up in discouragement, they will permit us to loan them the

1921 Acousticon
For 10 Days' FREE TRIAL
No Deposits—No Expense

400,000 delighted users have given us this permission to their relief and profit. Most of them had tried many other aids and treatments without avail—but the Acousticon has patented features which cannot be duplicated. So disregarding your past experiences, write for *your* free trial today.

DICTOGRAPH PRODUCTS CORP.
1311 Candler Bldg. New York City, N. Y.

Beautify Your Grounds with Dodson Bird Houses



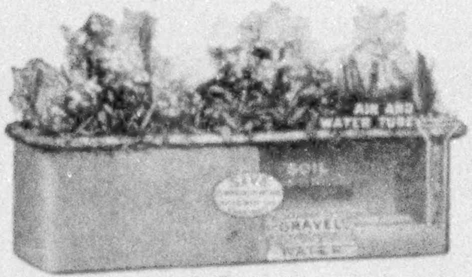
Price **$6**

They never fail to attract the song birds (insectivorous birds) who in turn destroy noxious insects. The valuable purple martin will catch and consume on an average of 2,000 mosquitos a day, besides other annoying insects; the song birds will protect your trees, shrubs and gardens from insects and their beauty and song will bring joy and happiness.

Mr. Dodson has spent thirty years of loving study of the song birds, their habits, and how to attract them to beautiful "Bird Lodge", his home on the Kankakee River. Dodson Bird Houses are a permanent investment; they will last a lifetime; built of thoroughly seasoned Oak, Cypress, Selected White Pine and Red Cedar; coated nails and the best lead and oil are used for their protection against the elements. Built under Mr. Dodson's personal supervision.

ORDER NOW—Free Book "Your Bird Friends and How to Win Them", sent on request illustrating Dodson line and giving prices; free also a beautiful colored bird picture worthy of framing.

Joseph H. Dodson *President American Audubon Association*
702 Harrison Ave. Kankakee, Ill.
Dodson Sparrow Trap guaranteed to rid your community of these quarrelsome pests, price $8.00.



Patented Jan. 23, 1917.

The SAVO Steel
ALL-YEAR-ROUND FLOWER BOX
Self-Watering and Sub-Irrigating

For Windows, Porches, Ledges, Sun Parlors, etc. Leak Proof and Rust Proof. No surface watering. Move Savo Boxes indoors or outdoors and have beautiful Flowers and Plants the year round.

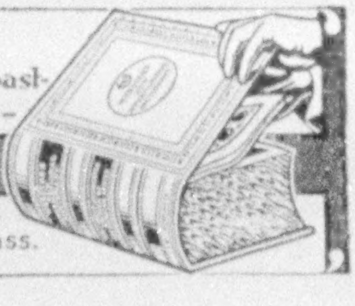
Write for FREE Catalog

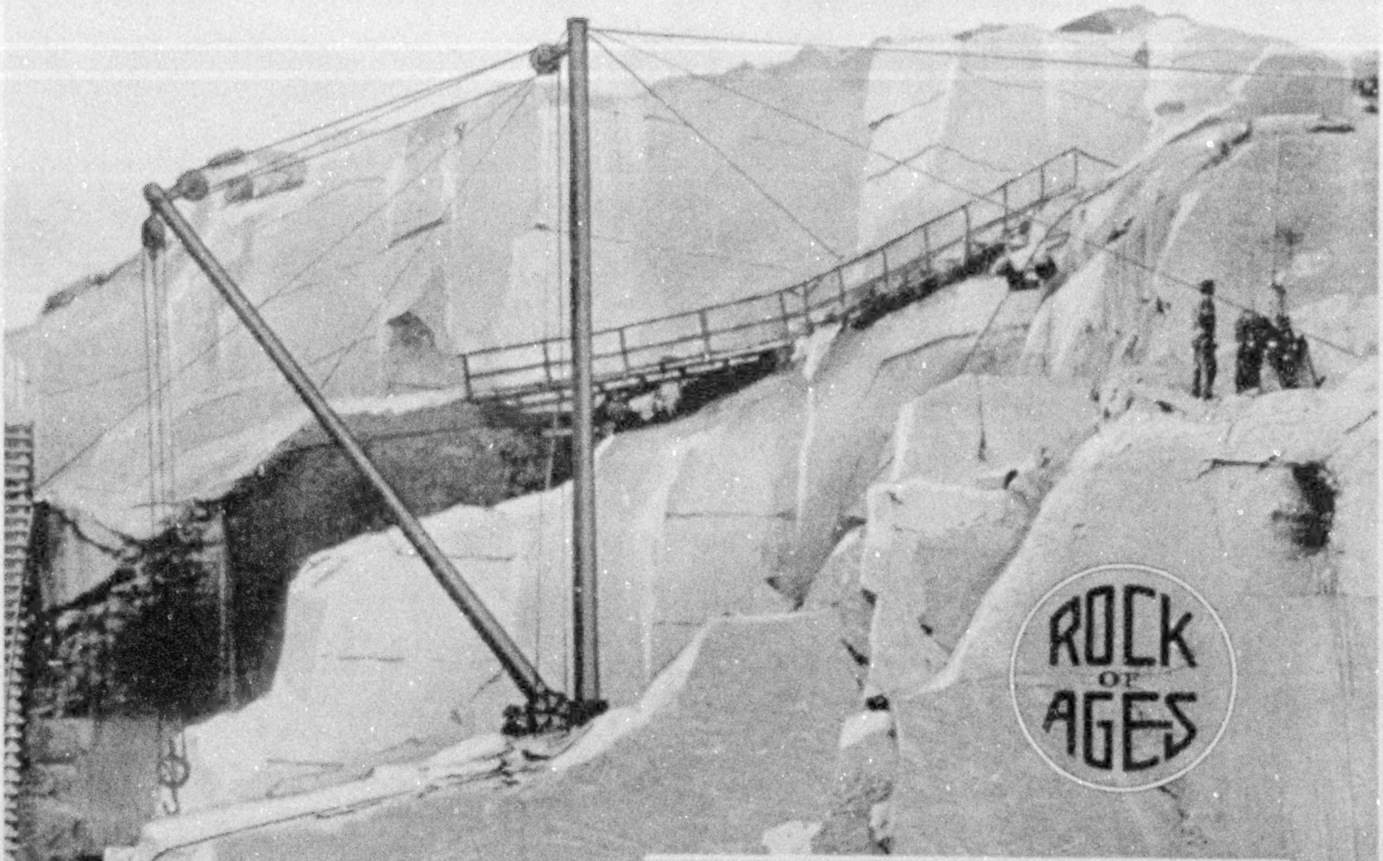
Savo Manufacturing Co., Dept. D, 39 S. La Salle St., Chicago

Whatever Your Question;—be it the pronunciation of Bolsheviki, the spelling of a puzzling word, the location of Murman Coast, the meaning of blighty, ace, tank, ukulele, etc., this Supreme Authority—

WEBSTER'S NEW INTERNATIONAL DICTIONARY

contains an accurate, final answer. 400,000 Words. 2700 Pages. 6000 Illustrations.
Regular and India-Paper Editions. G. & C. MERRIAM CO., Springfield, Mass.
Write for specimen pages, prices, etc. and FREE Pocket Maps per Natl. Geo.





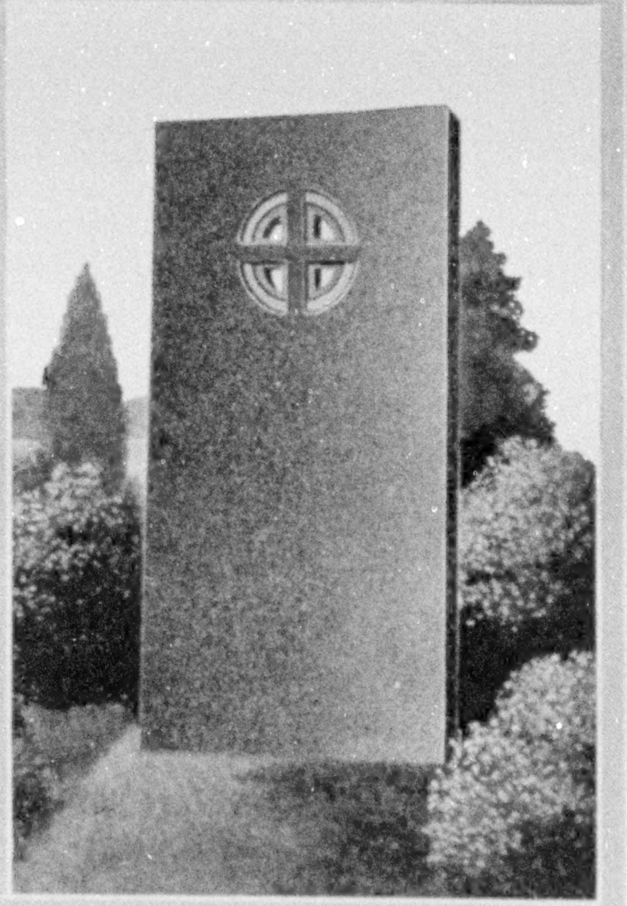
FROM THE ETERNAL HILLS

TIME created the eternal hills, and in their silent depths has formed ROCK OF AGES Granite which Time itself cannot destroy.

Dignity of polished surface and matchless gray color, no less than its enduring strength, make ROCK OF AGES America's finest monumental granite.

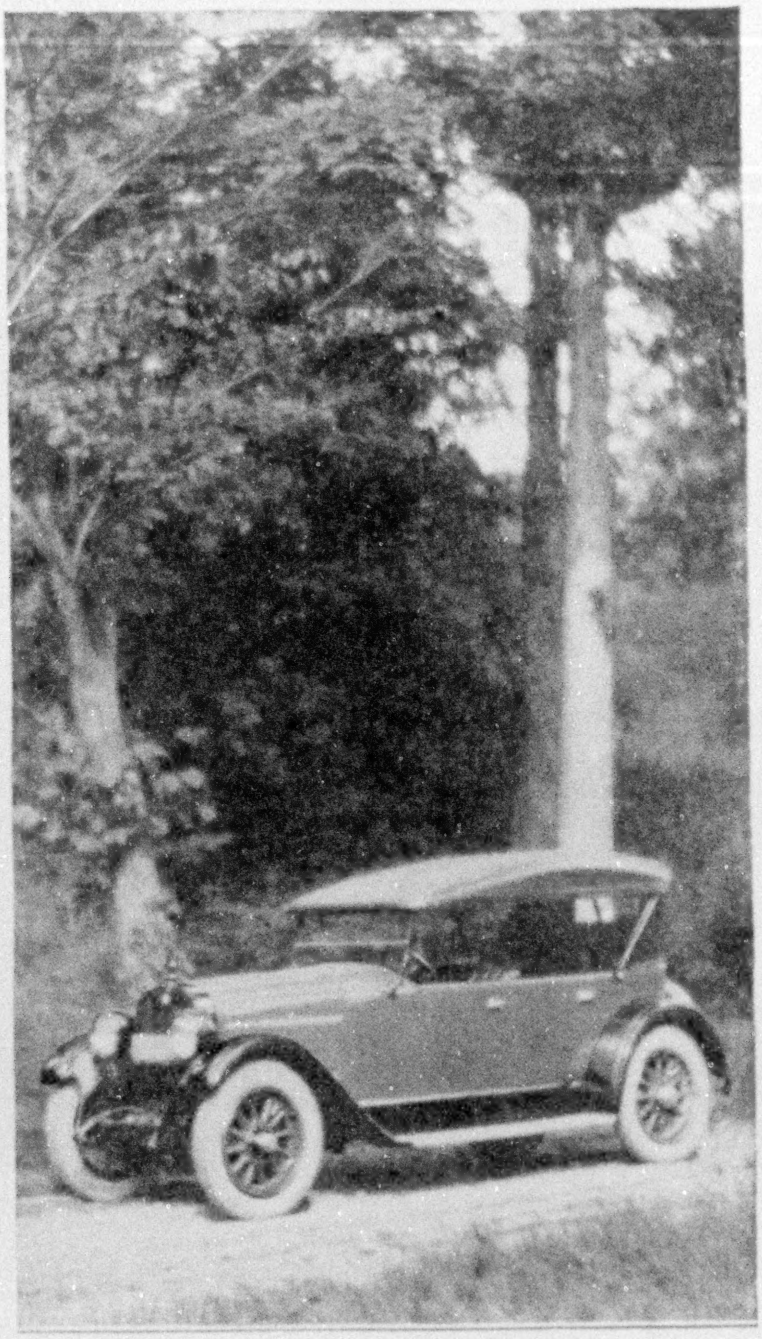
Specify this superior granite for your memorial and see that the Certificate of Guarantee is furnished.

A descriptive booklet mailed on request.



BOUTWELL, MILNE & VARNUM CO.
Quarriers
MONTPELIER VERMONT

©1921, B., M. & V. Co. Refer to Dept. E



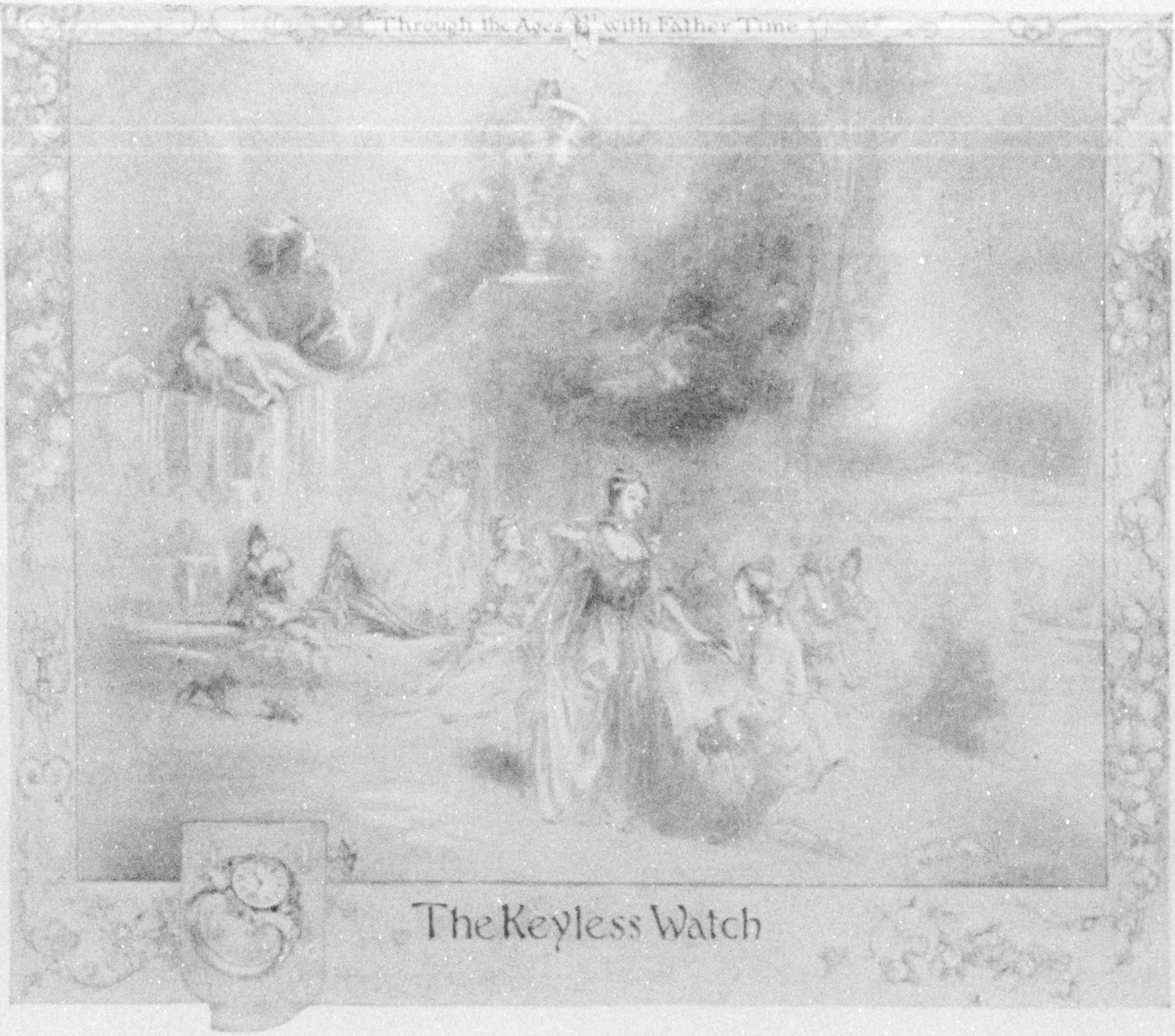
LAFAYETTE

If our car is as good as we believe it is or as good as owners tell us, that is because we have not once swerved from the purpose with which we started—to build the finest automobile we could, putting into its structure, without thought of cost, all that honest metal could give and that devoted workmanship could avail

Road weight of Touring Car, with spare tire and full tanks of fuel and water, 4180 pounds

LaFayette Open Cars, $5625 at Indianapolis

LAFAYETTE MOTORS COMPANY at *Mars Hill* INDIANAPOLIS


Through the Ages with Father Time 1752
The Keyless Watch

Caron's gift to Pompadour was a tiny affair. "It is in a ring," he wrote, "only four lignes [one-third inch] in diameter. I have contrived a circle around the dial, with a little projecting hook. Carrying this with the finger nail two-thirds around the dial, rewinds the watch. It runs for thirty hours" • • •

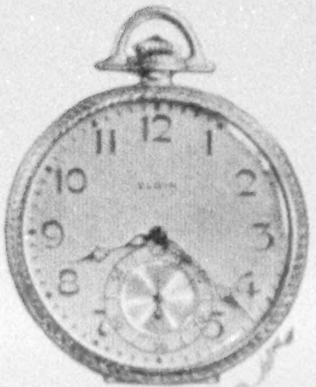
"TWIST this hook around the dial," murmured an audacious courtier to Madame Pompadour in 1752, "as you twist our empire 'round your finger!"

"Watchmaker to Louis XV," this daring stripling styled himself. The Keyless Watch, his shrewd gift to France's fair dictator in the moonlit gardens of Versailles, proved the key to power. Swiftly he rose: music master to the royal sisters—secretary to Louis himself—from Caron, the watchmaker's son to de Beaumarchais, the idol of France, whose "*Barber of Seville*" and "*Marriage of Figaro*" hastened the dawn of the Reign of Terror.

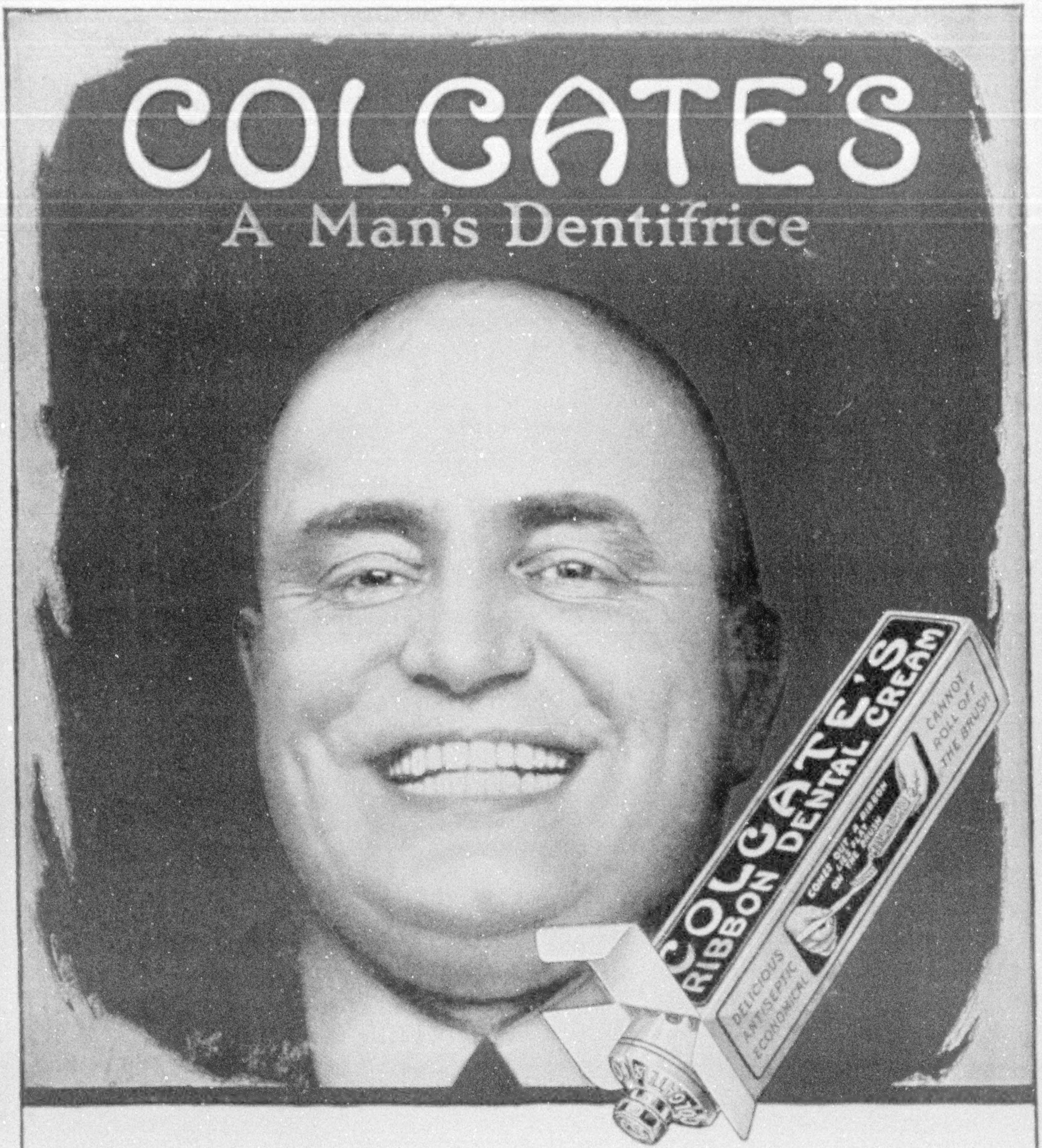
To America, Caron's gifts were three-fold. His filibuster fleets bore enormous cargoes of arms to the aid of our Revolutionists; his brilliant dramas are cherished to this day by our opera lovers; and his Keyless Watch, though too small to be entirely practicable, helped to blaze the trail for those modern marvels of dainty compactness and precision—

The $250 Corsican in white gold, with dial of sterling silver • • *An unretouched photograph* • • • • • •

Elgin Watches



Press of Judd & Detweiler, Inc.
Washington, D. C.


COLGATE'S
A Man's Dentifrice
COLGATE'S
RIBBON DENTAL CREAM
CANNOT ROLL OFF THE BRUSH
DELICIOUS
ANTISEPTIC
ECONOMICAL

A MAN is known by the teeth he keeps. "I use Colgate's Ribbon Dental Cream—taking no chances with gritty or over-medicated preparations. Grit may damage the tooth enamel; and acids, that will dissolve deposits, will affect the enamel, and may injure the gums and delicate membranes of the mouth. I make it a point to see my dentist twice a year, and use Colgate's Ribbon Dental Cream regularly night and morning. That's why I smile. More dentists recommend Colgate's than any other dentifrice—and they ought to *know*. It is *safe* and *efficient*."

For Sale Everywhere—or generous trial tube sent on receipt of 2 cents in stamps

COLGATE & CO. Dept. 66 199 Fulton Street, New York